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UBLIS 571
Information Organization

Spring 2016

Assignments

Instructions for using the assignment and learning blog templates

Templates do save time. The UBLIS 571 assignment templates are Word documents (not Word templates in the technical sense) that contain standard text that must be included in completed assignments: assignment number and title, section headings where appropriate, and all worksheets. Some assignment templates also include text so you do not need to retype it, such as URLs (in Word, just Ctrl-LeftClick on the URL to the website) or query text to copy and paste (as in Assignment 3). These assignment templates provide a very simple example of templates as discussed in Lecture 6.1. It is up to you whether you want to use the templates.

The assignment and learning blog templates are in a zip file you can download:
www.dsoergel.com/UBLIS571DS-00.0-3bAssignmentAndLearningBlogTemplates2016Sp.zip

You must then unzip them. **This process depends on the zip software**.
Move the zip file to the folder where you want the assignment templates to be. Then extract all files **to that folder**: right-click on the zip file and then click on the appropriate option (might be called *Extract All* or *Extract here*, depends on your zip software).

You can use the templates as they are and put your UBIT ID in every time. You can also have Word put your UBIT ID in all the templates at once and learn about *master document* with *subdocuments* in Word in the process. This process will also create the correct file name for assignment submission so you can just copy and paste when you save the completed assignment.

Instructions for personalizing the templates

Note: **This process depends on the version of Word you are using**; I used Word 2010. If this process does not work for you, it may not be worth the trouble.

The template folder contains a *master document* $AssignmentTemplatesMaster that includes all assignment and learning blog templates as *subdocuments*. The master document allows for inserting your name into all templates at once. In word processing terminology, a master document is a collection of subdocuments (in this case one subdocument for each assignment or learning blog template). You personalize the templates in the master document (applying a global change to the whole master document); all changes are made in the individual subdocument files as well.

1. Open $AssignmentTemplatesMaster. (You may need to click on *Enable Editing*, at top.)
   It should open in Outline view. (If not, click on *View*, then on *Outline*.)
   In the Ribbon (above the document) click on *Expand Subdocuments*.
2. Do a global change (Ctrl-H for Find and Replace).

   Find: %n

   Replace with: <your UBIT ID> example: smithm
3. Save the master document. This will also save the changed version of each subdocument (the individual assignment or learning blog templates). Exit the master document.

gold **Assignment: Personal introduction** ***Assigned: Jan. 25***
Due: Jan. 27

Post a personal introduction posted to UBlearns

Learning objectives What you should learn	1. Graduates understand the importance of collaboration on student learning in the learning process. (P2.6.2,1.8) 2. Graduates are able to communicate effectively in multiple media as receivers of communications (active listening, reading, interpreting graphs and images), as producers of communications (presenting, speaking, writing, visual design), and as collaborators. (P3.3) 3. Graduates will practice the ability to work with others. (P5.23)
Materials	Your statement of interest that you submitted with your application to the program, as updated in your Study Planner and Portfolio Your resume The description of your current job, if any. Your plan of study **The template** for this assignment, known for this purpose as Assignment0 (See next page) (You can use the template to compose your post, than copy and paste it into your post);.)
Tasks	Post a personal introduction on the Discussion Board *Introductions* on the UBlearns site for the course. In the subject line put last name, first name (so the introductions can be sorted) You can compose in the post or copy and paste from or attach a document. Include information that you think would be helpful to establish rapport and support collaboration with other students **and** that you are comfortable sharing. Some suggested items are (these are not mandatory, you can add others) • Your address and phone number (at a minimum, your zip code is helpful to identify groups of students that live close to each other). • A picture • Your current job, if any • Your professional interests • Your career aspirations • Other courses you have taken or are taking this fall or plan to take • What you hope to learn from this course • Whether you would like to join a study group • Hobbies, personal interests. What you like to do in your spare time (if any)
Deliverable	A *deliverable* is what you submit. The post on the forum. **Do not submit this like the other assignments**
Time	1.5 hours?

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Assignments 1 - 3

Searching three information systems

Perseus plus Freebase	A hypermedia system on classics A general hypermedia systems
Medline	A database of journal articles in medicine
OCLC WorldCat	A database of books on all subjects and a database of journal articles First exposure to MARC records

Learning objectives / concepts learned	These assignments give you experience in how information retrieval (IR) systems work and provide many examples for concepts discussed throughout the course, esp. in the reading for Lecture 4.1, *Searching linked data.* *Design of an integrated information structure interface.* The goal is to create an intuitive understanding now as the basis for more formal treatment later

These assignments relate to ➜UBLIS 518 Reference Sources and Services; they will make you a better searcher.

If you want to examine still another information system where the entity-relationship model is hard at work, look at
www.ontopia.net/omnigator/models/index.jsp
(The opera example is best.)
Also http://wiki.dbpedia.org/About

Note on controlled vocabulary
All three assignments touch on this concept in a preliminary way. This concept will be discussed in depth later. Briefly, a controlled vocabulary is a vocabulary in which one term is chosen from a group of synonyms to represent a concept. From the terms *popular culture* and *mass culture* choose *popular culture*; *popular culture* is used in indexing and should be used in searching. This way, no matter which term the author uses, a user searching for the concept will find it.

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gold **Assignment 1** ***Assigned: Jan. 27***
Lecture 1.2 ***Due: Feb. 10***

Explore searching with relationships: Perseus and Freebase

Learning objectives What you will learn	**Provide a gentle introduction to fundamental concepts of the course**. 1. Experience an integrated information retrieval (IR) system that covers many *entity types* (art works, buildings, documents, and words) that are related in many ways. Get a good understanding of how to search in a rich network of relationships (later discussed as the *entity-relationship approach*) P2.0.2, P2.3.1,1.2# 2. Prepare for understanding of information structure concepts to be discussed later: *entity-relationship modeling*, *conceptual data schema*. P2.3.1,1.1# 3. Understand searching through navigation and through explicit queries. Optional: A first look at controlled vocabulary vs. full-text. P2.5.2,1.2#
Materials	1 Description of Perseus and Freebase. 2 Step-by-step guide for exploring the features of Perseus **You need a computer with a high-speed Internet connection** If your Internet connection at home is slow, use a computer in a library.
Tasks	1. Do a guided exploration of Perseus. Get a basic view or explore more fully by doing the optional parts. 2. Do your own searches on Perseus. (optional) 3. Explore Freebase www.freebase.com **On your own**
Deliverable A *deliverable* is what you submit.	**Individual essay** (one for each student) 3/4 (three-fourths) page. Reflect on • what you experienced / learned, • what you got out of this assignment, • what you found neat or deficient about the two systems. • how the systems compare Analyze the systems as to their strengths and weaknesses and/or think about how you might use these systems (or similar systems in a different domain) in the kind of job you aspire to, or how these or a similar systems could be used for patrons of the kind of library/information system you are interested in. Do not write about the quirks and unreliability of the systems.
Time	2 ½ hours **Over**

Outline and general guide

1 Description of Perseus and Freebase Read this first

1.1 What is Perseus? What is Freebase?

1.2 Technical hints and observations on Perseus:

2 Step-by-step guide for exploring the features of Perseus

Depending on your learning style,

Start with this exploration and find out bit by bit what types of information Perseus provides and how they are accessed. Optionally, read Section 4 afterwards.

or

Read the systematic – but somewhat abstract – exposition in Section 4 first and then, knowing a lot more about the system, do the exploration

3 What are all the types of information stored in Perseus: The conceptual data schema
Optional

1 Description of Perseus and Freebase

1.1 What is Perseus? What is Freebase?

Perseus is a Web-based hypermedia and information retrieval system that contains a vast amount of information about classics (and recently other things), including

descriptions and images of archaeological sites, buildings, sculpture, vases, and coins;
Greek literary works and their English translations;
a Greek-English dictionary;
a time line of events;
a classics encyclopedia.

Section 1.2 gives a more complete description of the contents in form of a *conceptual data schema*.

In the exploration, you will, among other things

- visit a Greek archaeological site, look at a site plan, get information about the buildings, and look at images of the buildings, with an excursion to an encyclopedia article about Greek theaters in general;
- consult the Perseus Encyclopedia;
- locate a passage of Greek text with links to dictionary entries;
- do some searches in the English-Greek dictionary;
- [locate literature relevant to Thucydides research and follow some hypertext links;] No longer supported by Perseus
- do a free-text search of the entire Perseus database.

Notes 1 Perseus is under continuous construction; as a consequence, everything work does not always work as advertised.

2 An older version of Perseus had several cool features the assignment can no longer demonstrate. These are summarized at the end of the assignment.

"Freebase is an open, Creative Commons licensed repository of structured data of more than 12 million entities. An entity is a single person, place, or thing." Entities are connected through binary relationships, forming statements. This can be visualized as an entity-relationship graph that users can follow starting from one entity, such the person *Verdi*, to find connected entities, such as operas he composed. There is a large community of people wh contribute data to Freebase. **Explore Freebase on your own**. www.freebase.com

1.2 Technical hints and observations on Perseus:

Use a computer with a fast Internet connection. Close other applications.

Perseus works better in Firefox than in Explorer or Safari, where pages often look a bit weird or image thumbnails very small.

Perseus often shows only the top of a screen while the real results you want are further down. **Always scroll down a bit before assessing the result.**

Sometimes, Perseus opens a new browser window when you follow a link. You might have to click on the icon for that new window in the Window's task bar to actually see the window.

The Perseus system is not entirely reliable. The things in the exercise generally work, at least on the second try. Watch for your browser's indicator that it is downloading a lengthy document (esp. an image). The system did respond; it just takes a while. **Do not click the mouse while the browser is downloading the page**. The browser stores your clicks and acts on them as soon as the result of the previous click is available. So when you finally could see the results you have been waiting for, the browser immediately moves on to the next thing.

If Perseus does not work for you exactly as it did when the assignment was last checked, "go with the flow" and figure out what to do.

Hyperlinks, that is, elements that can be used as starting points in a next search step, are usually blue (and often underlined). Purple means you have been there.
In this assignment, an underlined word or phrase means: select this item by clicking on it.

In Perseus there are **two types of hyperlinks** (even though all hyperlinks appear the same)

- **Hardcoded hyperlinks** that lead directly to one specific place. These hyperlinks follow a specific relationship introduced between the two linked entities for example XXX.
- **Hyperlinks that** simply call the *Look-up Tool* to **search** for the underlined word or phrase, for example clicking on XXX starts a search XXX, as in the UB library catalog.

Search

Search works in two different modes:

(1) Search in document (texts, images) catalog data. By default, Perseus searches only the author and the title of documents (only the most important words are used to find a document).

(2) Search in full document text and for other types of entities (many more words are used to find a document). This is a second step, invoked by clicking on here on the first result screen. Example: Search for *vase.*

Note on search:
(a) If, and only if, none of the initial search terms occurs in the catalog data, the system, rather the returning a result of 0, goes directly to (2).
(b Perseus looks for the exactly query string even if "Search for all possible forms" is checked.
(c) Several search terms are connected with Boolean OR as the default.

A note of caution. Perseus is very rich in information, linkages, and navigational possibilities, but its interface may be hard to follow. If you are confused it might well be the system's fault. If you think there should be a better way to do some of the interactions, there probably is!

2 Step-by-step guide for exploring the features of Perseus

Instruction on what to do Underline means: Click on this	**Explanation**
Go the Web address: www.perseus.tufts.edu	Access to Perseus may be unstable and slow. If that happens, use at off hours or try again.
First, look at some help files	
Help	In the dark grey logo band at the top, at right.. You may explore help topics, for example Classics Collection Overview
Perseus 4 Quick Start Guide Help with Searching and Search-related Tools	You may read this now (useful but dense) or you may review later. The assignment always gives you instructions what to do.
Now look for sites, buildings, and a lot of information about them. **Search by clicking on links**	
[Collections/Texts]	Inside the dark grey logo band at the top
Art & Archaeology Artifact Browser	
Browse one of the following artifact types: • Building • . . . • Site • Vase	This defines the **target of your search**, the type of entities (namely Sites) you want to find. Perseus displays two properties, two ways to search for sites: You can start from Region to find sites in a given region or from Site Type to find sites
Choose a property to search for Site: • Region • Site Type	Perseus displays a list of regions (starting entity values) to choose from.
Scroll down the list. Click on Troad	Perseus displays a list of all sites **in the Troad region**, represented by the relationship <*contains*>. More formally, a list of all sites X (X because these sites are still unknown to us) for which **Region Troad <*contains*> Site X** is true. There are two sites in the Region Troad
Assos Troy	Leads to a full description of the site.

	We will now do a search for images of Assos
View Thumbnails (89)	Look at some images: click on the thumbnail
In the search box (upper right hand corner), type Assos and press [Enter] or click on Search	The 89 thumbnails do not include all images of Assos, so we are going to use another way to search the entire collection. Look over the result screen; in the right pane, observe how results are divided by type of entity found (documents [meaning text], artifacts, images).
*** In the Matching Artifacts section on the right, click on Assos, Theater [Building]	See a description of the building. Perseus found this following the link (relationship) **Object** <*coveredIn*> **MediaObject** Assos, Theater <*coveredIn*> http://data.perseus.org/artifacts/ building/ Assos%2C+Theater Assos, Theater <*coveredIn*> image ID MediaObject can be text, image, or sound. Note the outline (template) used for arranging the information about this building. Context is the same as Site.
View Thumbnails (10)	Lower SW corner and Upper NE section are particularly good images. You might also look at the Plan These images are not among the 89 shown under Assos
	Clicking on View more images ... should show 162 thumbnails, but due to a problem in Perseus it goes back to the Assos site description. You can replicate the steps for another site, for example Troy, and see what happens.

	Another way to find all buildings on the site Assos
[Collections/Texts] Art & Archaeology Artifact Browser	
• Building • Coin • Gem • Sculpture • Site • Vase	Defines the **target of your search**, the type of entities (in this case buildings) you look for. Now Perseus displays five building properties, five ways to search for buildings, allowing you to specify the entity type from which the search should start.
Choose a property of the Building artifact: • Architect • . . . • Context [same as Site]	Perseus displays a list of contexts / sites. The user can choose any of these, we are interested in buildings whose site is Assos
• Assos [9 Buildings]	Displays a list of the 9 buildings. **Site** <*contains*> **Building**
Assos, Theater	Brings up the description you have seen before **Object** <*coveredIn*> **Media object**

Second example of navigation search: *vases showing a pillar*	
[Collections/Texts] Art & Archaeology Artifact Browser	
Browse one of the following artifact types: • Vase	You want to find objects of type vase (the search target)
Choose a property of the Vase artifact: • Keyword	You want to select a keyword as starting point for the search.
View Vases whose Keyword category is... • Buildings [20 keywords]	Browse the keyword list by category
View Vases with keyword category: Buildings... • pillar [8 Vases]	Now you select the specific keyword "pillar" as the starting point of your search Shows thumbnail images of 8 vases whose Keyword is "pillar" **Object** (Vase) <*depicts*> **Object** (Pillar)
Scroll down to Tampa 1982.14.1 (7th in the list) Tampa 1982.14.1 Read the Decoration Description, note "pillar"	Shows record with information about the vase. Some vases have a lot more information.
View thumbnails (12)	Several of the thumbnails show a distinct image of a pillar. Click in one to see a larger image.

Search through the search box. Topic: vases showing a pillar	
Type "pillar" in the search box top right and click [**Search**]	Finds all text documents, images, artifacts, and dictionary entries in some way associated with "pillar" **For text documents**: Finds all for which "pillar" occurs in the catalog data or the document text. **For images**: Finds all for which "pillar" occurs in the catalog data, which may include a textual description of the image.
Under Matching Artifacts (32) Uncheck all object types (entity types) except vases and click [View]	Narrow the scope of the search targets All the vases from before are found, plus three more.
Explore the Perseus Encyclopedia. Examples of hypertext (a collection of interlinked pieces of text)	
In the search box top right, enter *encyclopedia* and click on Search . Perseus Encyclopedia:	Leads to the start of the alphabetically arranged Perseus Encyclopedia**.** Note: There used to be a very useful table of contents by broad subject categories , each leading to a listing of encyclopedia articles in that category. Such as Enc Britannica or Wikipedia, http://en.wikipedia.org/wiki/Wikipedia:Comparison_of_Wikipedia's_and_Britannica's_outlines_of_knowledge The alpha table of contents is not useful.
In the search box **for the encyclopedia**, type *Assos* and press [Enter].	Different from the general search box
Click on More (2), then click on entry assos	The text for this entry has not yet been entered, but there is a cross-reference
Optional: Click on [XML] Go back with browser Back button	Examine the entry with XML tags. You can do this for other pages as well. (covered in Lecture)
Paus. 6.4.9	This will open in a new tab or new window in your browser. You may have to click on that tab to see the text. Note: The first half sentence of the text is missing; it is "Sodamas from Assos in the Troad, a city ..."
Optional: Click on the arrows in the upper-left corner to see the further portions of text	

Close the Pausanias tab or window	
In the Perseus Encyclopedia search box, type *theater* and press [Enter].	Read the text. Note: *theater* and *theatre* are different strings and are treated separately. Here *theatre* does not find anything. Question: What would the system need to do to make it easier for the user?
Click on More (43)	See all results (encyclopedia entries, all in the same document, namely the encyclopedia). entry theater is toward the bottom of the list.
Scroll toward the bottom of the list, click on entry theater	Examine the entry. Lot's of linked information.
Scroll down to a list of related encyclopedia articles. Click on any one of them	See related encyclopedia articles. These in turn have cross-references

Locate a passage of Greek text and follow links from there More examples of hypertext.	
In the Perseus Encyclopedia, Theater, find at Athens: Paus. 1.21.1, Paus. 5.12.4, completed by Lycurgus: Paus. . . . Click on Paus.1.29.16	Leads to Greek Text, English translation. (This may open a new browser tab or window.)
In the box that shows Paus 1.29.16 delete .16 (so that only 1.29 remains) and press [Enter]	
Scroll down to see the entire section Click on footnote symbol 3, then click on the footnote symbol there to get back into the text. Follow a path to another cross-reference and back	Looking at the XML is instructive
Move around the text. Use the browser's Find (**Ctrl-F**) to quickly locate theater in the text.	Remember to use Ctrl-F as a reading tool in Word documents **and Web pages**
Ctrl-Home (to get to the top) Use the blue right arrow just above 29 to go to the next Section.	
Use the blue left arrow to get back to 1.29	
Under Places (automatically extracted) View a map	
Zoom so the map focuses on the Mediterranean. Click on some of the red push-pins to see the name of the place. (Close one balloon before clicking on the next red push-pin.)	
Back In the bar Greek (1903) to the right click on load	Loads the Greek text on the side. (Clicking on focus puts the Greek text in the middle.)
Ctrl-End to get to the end of the page Under **Display Preferences** In the drop-down box **Greek Display**: select **Latin transliteration** [Update Preferences]	You can read the Greek text transliterated (If interested in transliteration, see http://en.wikipedia.org/wiki/Transliteration)
After this guided tour, **do your own exploration** To log out, just close all browser windows.	

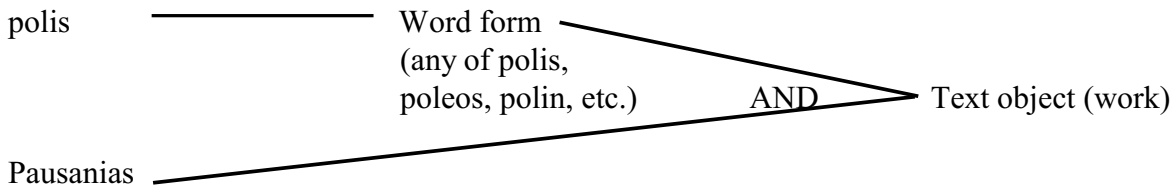
Final section of the Perseus exercise. OPTIONAL, ADVANCED **Words as entity types of interest**. (Very neat functions **if** you are interested in language)	
In the second paragraph of the transliterated text, a few words in, click on poleôs	In its own browser tab or window (you may need to click to open this tab), displays morphological analysis for this inflected Greek word. **Word form** (poleôs) <*is form of*> **Word** (polis) polis = city, poleos is the genitive singular
Middle Liddell	Briefly study this dictionary entry. (Users are asked to contribute **word sense disambiguation** data, which can be used as a training set by a computer program that learns automatic word sense disambiguation.)
Under Max, click on 1,223 The click on More to see all results (The cursor does not change as you mouse over more, but clicking on it works anyway.)	This uses an enhanced version of Perseus Search tool to search for *polis* in Pausanias. Results in a list of Pausanias passages containing *polis* in various inflected forms (nominative, genitive *poleôs* etc., accusative *polin*, lemmatized search). Displays (after a while) in a new browser tab or window. The list includes Book 1, Chapter 29.
Click on book 1, chapter 29	The chapter is displayed with all inflected forms of *polis* highlighted
Close the tab or window with the search results	
LSJ	Have a look at the entry. Each of the references to an author is a hyperlink to the passage in question.
Follow one of the links	The text displays in a different tab; you may need to click on it. (If you follow an **Od**[yssey] link, the tab will be labeled Homer ...)
Close the tab/window Greek Word Study Tool	
You should be back in the text tab. If you do not see the Pausanias text, use the browser back button until you are back there.	

More explanation of the Greek Word Search

You put in two **search criteria or starting points for the search**:

The Word *polis* and the Person *Pausanias*

Starting from *polis*, Perseus uses the relationship Word <*hasForm*> WordForm to find different forms of *polis*, such as *poleos* (genitive) and *polin* (accusative). In a second step, Perseus follows the relationship **WordForm** <*containedIn*> **TextObject** to find text objects (works). In parallel, Perseus starts from *Pausanias* and follows the relationship **Person** <*authorOf*> **TextObject** to find text objects (works). If a work is found both ways it meets both search criteria and is retrieved



Search in the dictionary (continuation of Optional Advanced)	
Under the general search box, click All Search Options In the line English-to-[Language] lookup, click Show In the drop-down box Search for, select the exact word then type *city* and press Enter	You will do a search for all lexicon entries for which the English definition contains the word *city*. More specifically, all dictionary entries in which *city* is part of the definition of the Greek head word This gives a (sort of) alphabetical list. It would be very nice if one could sort the list by frequency. As it is,
go to page 2 and find **polis** (the most frequent) Middle Liddell	The same entry you saw before when you started a word search from a word in a text
Back On page 1, find **philopolis** (Max. Inst. 63). Ctrl-F philo works best	
	In Perseus 3 one could get a list of Greek authors indicating how often each uses the word *philopolis*. One could then select an author and get to his passages in which *philopolis* appears. In Perseus 4, once can only find a list of all passages in which the word is used, sorted by author; the nice summary page is not available
In the philopolis line, click on 62.	A list of passages from all Greek authors that include the word philopolis, giving the sentence in which the word occurs.
You can click on the ID of the passage (blue) to get to the full passage. From there, you can click on any word to get to its dictionary entry	
In the same way, do a dictionary search for *theatre* Watch the spelling, *theater* finds no dictionary entries	

3 What are all the types of information stored in Perseus: The conceptual data schema

A conceptual data schema defines the types of data that are included in an information system. In the *entity-relationship approach*, types of data are modeled by giving the types of *entities* covered and the types of *relationships* that combine entities into statements, such as:

Statement templates	Entity type *Relationship* Entity type MediaObject *<authoredBy>* Person	Entity type *Relationship* Entity type Building *<containedIn>* Site.
Statements	Entity value *Relationship* Entity value Case of Plataia *<authoredBy>* Crane	Entity value *Relationship* Entity Parthenon *<containedIn>* Acropolis

This approach is used in the database world, in data representation for the semantic Web (linked data, Linked Open Data or LOD), and, since FRBR and RDA, in bibliographic cataloging.

Why is the conceptual data schema (which is not easily visible in Perseus) elaborated here?

1 It easier to use Perseus to full advantage if one understands the conceptual data schema.

2 It is easier to understand a conceptual data schema if one applies it in navigation / search.

Entity types

Object[1]
- MediaObject (document)
  - TextObject (incl. LiteraryWork, TextDescribingAnObject)
  - Image (incl. Photograph, Drawing, Painting)
- Art object
  - Building
  - Sculpture
  - Vase
  - Coin

Person

Place
- Region
- Site
- MapLocation (in coordinates)
  - Spot (a specific spot on a site)

Direction (as in northeast)

ObjectType

Values are all the object types listed above and more specific object types, such as theater under building or fortified city under site; used in Perseus to find all objects of a given type.

TimeEntity
- Period
- Date

Event

Language

WordEntity
- Word (a word underlies a group of forms)
- WordForm (a string of characters)

Concept

identified/named by keywords in Perseus

[1] For many objects, a distinction between intellectual/artistic work and item (physical copy) can be made; for example, *The Republic* by Plato as an intellectual work and a particular item (physical copy) with the text of that work. (More on that in Week 7)

Relationship types (list on next page)

When you click on a hyperlink or a *Search* button in Perseus, you follow a relationship. For example, Perseus includes the statement

Troad (a Region) *contains* Assos (a Site).

When Troad is highlighted, clicking the *Search* button follows the *contains* link to find Assos (and other sites contained in Troad, put more formally: for which Troad *contains* Site X is true).

Relationship types: Statement templates and sample statements

Entity	<*isa*>	Entity (for example, concept hierarchy) (isa = is a)
Object	<*isa*>	ObjectType (building, vase, coin, document, etc)
Assos	<*isa*>	Site
Object	<*depicts*>	Entity
Schematic drawing (site plan)	<*depicts*>	Site
Tampa 82.14.1	<*depicts*>	Pillar (where Pillar is an Object type, "some pillar")
Image Smith 1989	<*depicts*>	Assos (where Assos is a specific object)
MediaObject	<*hasSubject*> <*mentions*>	Object
Perseus Building Catalog, p. 535 <*hasSubject*> Assos Theater		
Entity	<*contains*>	Entity (whole-part), for example
TextObject	<*contains*>	TextObject
TextObject	<*contains*>	Word
Region	<*contains*>	Site
Troad	<*contains*>	Assos
Site	<*locatedAt*>	MapLocation
Assos	<*locatedAt*>	(39.5845 N, 26.2082 E)
Site	<*contains*>	Building
Assos	<*contains*>	Assos Theater
Word	<*belongsTo*>	Language
polis	<*belongsTo*>	Greek
TextObject	<*writtenIn*>	Language
Herodotus 9.28.6	<*writtenIn*>	Greek
TextObject	<*hasCreator*>	Person,
TextObject	<*refersTo*>	Text object
Crane 1996	<*refersTo*>	Herodotus 9.28.6
TextObject	<*translationOf*>	TextObject
Word	<*translationOf*>	Word
city	<*translationOf*>	polis
Word	<*hasForm*>	WordForm
polis	<*hasForm*>	poleôs (poleos is the genitive singular)
Image	<*takenAt*>	(Spot, Direction)

Inverse relationships		
Entity	<*includesSpecific*>	Entity
ObjectType Site	<*includesSpecific*> <*includesSpecific*>	Object Assos
Entity Site	<*depictedIn*> <*depictedIn*>	Object SchematicDrawing (site plan)
Pillar Assos	<*depictedIn*> <*depictedIn*>	Tampa 82.14.1 Image Smith 1989
Object Assos Theater	<*SubjectOf*> <*SubjectOf*>	MediaObject Perseus Building Catalog, p. 535
Entity TextObject Word	<*containedIn*> <*containedIn*> <*containedIn*>	Entity TextObject TextObject
Site Assos	<*containedIn*> <*contained in*>	Region Troad
MapLocation (39.5845 N, 26.2082 E)	<*isLocationOf*> <*isLocationOf*>	Site Assos
Building Assos Theater	<*contained in*> <*contained in*>	Site Assos
Language Greek	<*isLanguageOf*> <*isLanguageOf*>	Word polis
Language Greek	<*isLanguageOf*> <*isLanguageOf*>	TextObject Herodotus 9.28.6
Person	<*creatorOf*>	TextObject
Text object Herodotus 9.28.6	<*referredToIn*> <*referredToIn*>	TextObject Crane 1996
Text object	<*translationSourceOf*>	TextObject
Word polis	<*translationSourceOf*> <*translationSourceOf*>	Word city
WordForm poleôs (= city	<*isFormOf*> <*isFormOf*>	Word polis
(Spot, direction)	<*isReferencePointFor*>	Image

gold **Assignment 2** ***Assigned: Jan. 27***
Lecture 1.2 ***Due: Feb. 10***

Bibliographic retrieval system exploration: Medline

Learning objectives	1 Be able to formulate Boolean queries. (P2.5.2,1.3.1) 2 Understand the role of hierarchy in searching and be able to use hierarchy in searching. (P2.5.2,1.3.2) 3 Optional: Understand some problems of free-text searching. (P2.5.2,1.3.3) 4 Understand the principles of the structure of subject classification, in particular facet organization and hierarchy and of methods for presenting this structure, and be able to apply these principles to the analysis of existing schemes and to indexing and query formulation. (Assignment 2 contributes to this objective.) (P2.3.9,3#) This assignment is used a lot as an example in later lectures.
Materials	This assignment is based on a search in Medline, an online database of medical journal articles produced by the National Library of Medicine and searchable, among other places, with DIALOG (an online search system, materials are from searching Dialog) and PubMed www.ncbi.nlm.nih.gov/pubmed. **There is no need to search Medline**; the search statements and the resulting lists of references (called *answer sets*) are presented as part of the assignment, slightly reformatted for ease of analysis. In this assignment, you will first read the explanations (Section 0) and then do your own analysis (Sections 1 and 2). The assignment assumes that you have done some online searching so you can imagine the actual search. Even having done the Perseus assignment gives some idea, and surely everyone has searched an online library catalog. You will learn online searching in your program, especially UBLIS 566 Digital IR. Note: You will need highlighters or colored pencils in two contrasting colors.
Tasks	Analyze results of a given search **as explained in the assignment** 1 to explore hierarchy and facets in searching (1a and 1b) 2 (optional) to explore free-text search: Uncontrolled vocabulary
Deliverables	1a Analysis of Answer Set 1 (p. ~29) as explained in the assignment. 1b Work sheet 1 (p. ~37) with the questions for analysis answered1 2 Optional: Work sheet 2 (p. ~45) with the questions for analysis answered 3 A brief individual essay (three-quarters of a page) summing up your experience with this assignment. (What have you learned? What is the significance of it? What is good or bad about Medline?)
Time	3 hrs

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Outline

0 Introduction

0.1 General introduction: Search topic and hierarchy

0.2 Hierarchically expanded searching or the mighty exclamation point.

0.3 Searching with combination. General explanation

1 Explore hierarchy and facets in searching

2.1 Combination search with hierarchically expanded searching: Answer Set 1

2.2 Focusing the search: Using more specific descriptors or adding query components.

2 Explore free-text search: Uncontrolled vocabulary. Two searches, AND vs. (With)

Note: Focus your attention on the conceptual aspects of the search. The syntax of the commands is incidental; you are not required to do your own search so you do not need to concern yourself with these details.

0 Introduction

0.1 General introduction: Topic of the search and hierarchy

Medline is a database of records about documents (no full text). Its main entity type is Document. The relationship type of primary interest in this assignment is Document <*hasSubject*> Concept. Concepts are expressed as *descriptors* or subject headings drawn from a controlled list (*controlled vocabulary*), namely **MeSH** (**Me**dical **S**ubject **H**eadings).

The search is about the general topic of **Hearing tests** assisted by computers (**Computing methodologies**), a combination of **Hearing tests** and **Computing methodologies**. To illustrate the important concept of the use of hierarchy in searching we introduce various subtopics in which one or both components are made more specific, for example, **Audiometry** (under Hearing tests) using **Signal processing, computer-assisted** (under Computing methodologies). Relevant excerpts from the **MeSH Hierarchy ("Tree Structures")** are shown in Figure 1. Look it over so that you can recognize some of the terms as you analyze retrieval results.

C9	Otorhinolaryngologic diseases
C9.218	. Ear diseases
C9.218.458	. . Hearing disorders
C9.218.458.288	. . . Deafness
C9.218.458.500	. . . Hearing loss, partial
C9.218.458.500.481	. . . . Hearing loss, sensorineural
C9.218.458.500.481.432	. . . . . Hearing loss, central
C9.218.458.500.481.460	. . . . . Hearing loss, noise-induced
C9.218.458.500.481.772	. . . . . Presbycusis

E1	**Diagnosis**
E1.276	. Diagnosis, otorhinolaryngologic
E1.276.299	. . Diagnosis, ear
E1.276.299.375	. . . **Hearing tests**
E1.276.299.375.100	. . . . Acoustic impedance tests
E1.276.299.375.297	. . . . **Audiometry**
E1.276.299.375.297.45	. . . . . **Audiometry, evoked response**
E1.276.299.375.297.92	. . . . . Audiometry, pure-tone
E1.276.299.375.297.105	. . . . . Audiometry, speech
E1.276.299.375.297.105.890	. . . . . Speech discrimination tests
E1.276.299.375.297.105.902	. . . . . Speech reception threshold test
E1.276.299.375.330	. . . . Dichotic listening tests
E1.276.299.375.570	. . . . Recruitment detection (audiology)
E1.276.299.816	. . . Vestibular function tests
E1.276.299.816.250	. . . . Caloric tests
E1.276.299.816.435	. . . . Electronystagmography
E1.276.591	. . Laryngoscopy
E1.276.660	. . Nasal provocation tests

Note: The term numbers (also called codes or notations) make the connection between an alphabetical index and the hierarchy listing.

L1	Information science
L1.700	. Medical informatics
L1.700.508	. . Medical informatics applications
L1.700.568	. . Medical informatics computing
L1.700.568.80	. . . Computer systems (*with more NT*)
L1.700.568.110	. . . **Computing methodologies**
L1.700.568.110.50	. . . . Algorithms
L1.700.568.110.65	. . . . Artificial intelligence
L1.700.568.110.65.190	. . . . . Expert systems
L1.700.568.110.65.250	. . . . . Fuzzy Logic
L1.700.568.110.65.580	. . . . . Natural language processing
L1.700.568.110.65.605	. . . . . Neural Networks (computer)
L1.700.568.110.65.630	. . . . . Robotics
L1.700.568.110.85	. . . . Automatic data processing
L1.700.568.110.85.800	. . . . . Punched-card systems
L1.700.568.110.108	. . . . Computer graphics
L1.700.568.110.108.150	. . . . . Computer-aided design
L1.700.568.110.160	. . . . **Computer simulation**
L1.700.568.110.308	. . . . Image processing, computer-assisted
L1.700.568.110.308.380	. . . . . Image-enhancement (*with more NT*)
L1.700.568.110.680	. . . . Mathematical computing
L1.700.568.110.680.310	. . . . . Decision support technics
L1.700.568.110.680.310.380	. . . . . Data interpretation, statistical
L1.700.568.110.680.310.428	. . . . . Decision theory
L1.700.568.110.680.310.480	. . . . . Decision trees
L1.700.568.110.680.310.600	. . . . . Neural networks (computer)
L1.700.568.110.680.700	. . . . . Numerical analysis, computer-assist
L1.700.568.110.800	. . . . **Signal processing, computer-assisted**
L1.700.568.180	. . . Computing milieu (*with more NT*)
L1.700.568.810	. . . Software (*with more NT*)
L1.725	. Pattern recognition
L1.725.500	. . Neural networks (computer)
L1.737	. Publishing (*with more NT*)
L1.906	. Systems analysis (*with more NT*s)

Figure 1. **Medical Subject Headings (MeSH). Hierarchy ("Tree structures"). Excerpts**

0.2 Hierarchically expanded searching or the mighty exclamation point

A subject descriptor (a term or concept used to index a document), such as **Hearing tests**, that has narrower descriptors, for instance, **Audiometry**, **Acoustic impedance tests**, **Speech discrimination tests**, **Dichotic listening tests**, can be used for searching in two ways:

Query Intro 1 general references search **998 documents** Answer Set Intro 1	S **Hearing tests**	**Simple search, narrower descriptors not included**. (S is DIALOG's command for entering a search statement and having the system retrieve an answer set.) Answer Set Intro #1 includes only documents indexed by the broad descriptor **Hearing tests** itself. This is called a general references search because it finds only documents that deal with **Hearing tests** in general.
Query Intro 2 inclusive search **7667 documents** Answer Set Intro 2	S **Hearing tests!**	**Inclusive search, narrower descriptors included**. More often than not, a user asking for a search on **Hearing tests** expects to find not only documents on **Hearing tests** in general but also documents on all the specific types of **Hearing tests** as shown in the MeSH hierarchy (Figure 1); this is referred to as an **inclusive** search or **hierarchically expanded** search. To do a hierarchically expanded search in DIALOG, one puts an **!** after the descriptor.

Check out the descriptors responsible for retrieval (shown in bold) in the answer set for the *general references search* shown in Figure 2 and in the answer set for the *hierarchically expanded search* shown in Figure 3. Of course, the hierarchically expanded search answer set includes all documents found in the general references search.

Note 1. In the document records some descriptors are marked with *****. These descriptors indicate major topics in the document.

Note 2. Within a search, answer sets are numbered and within an answer set, documents are numbered.

Answer Set Intro 1. General references search (998 documents)
(Descriptors responsible for retrieval are shown in **bold**)

Query 1	?**B 154** File 154:MEDLINE®) 1985-1998/Feb W4 ?**S hearing tests** 998 documents found	Begins a new search in database (file) 154, Medline ? is the Dialog prompt, followed by the **Dialog command** General references search

1
● Speech perception performance of children with a cochlear implant compared to that of children with conventional hearing aids. II. Results of prelingually deaf children.
Tags: Human
Descriptors: *Cochlear Implants**;** *Deafness--Rehabilitation**;** *Hearing Aids**;** Age of Onset**;** Deafness–congenital**;** Deafness--Etiology**;** **Hearing Tests;** Meningitis--Complications**;** Speech Discrimination Tests

2
● Speech perception performance of children with a cochlear implant compared to that of children with conventional hearing aids. I. The "equivalent hearing loss" concept.
Tags: Comparative Study**;** Human
Descriptors: *Cochlear Implants**;** *Deafness--Rehabilitation**;** *Hearing Aids**;** *Hearing Loss, Partial--Rehabilitation**;** *Speech Perception**;** Child **;** **Hearing Tests;** Speech Discrimination Tests

3
● Audiometric evaluation of hearing loss in children.
Tags: Human
Descriptors: *Deafness--Diagnosis--DI**;** Child, Preschool**;** Cochlear Implantation**;** Deafness--Rehabilitation**;** Hearing Aids**;** **Hearing Tests;** Infant**;** Infant, Newborn

4
● Desferrioxamine in chronic progressive multiple sclerosis: a pilot study.
Tags: Female**;** Human**;** Male
Descriptors: *Antidotes--Pharmacology**;** *Deferoxamine–Pharmacology**;** *Multiple Sclerosis--Drug Therapy**;** Adult**;** Chronic Disease**;** **Hearing Tests;** Middle Age**;** Neurologic Examination**;** Pilot Projects

5
● Functional hearing results in revision stapes surgery.
Tags: Comparative Study**;** Female**;** Human**;** Male
Descriptors: *Hearing Loss, Conductive--Diagnosis**;** *Hearing Loss, Conductiveiology**;** *Ossicular Prosthesis**;** *Prosthesis Failure**;** *Reoperation**;** *Stapes Surgery--Adverse Effects**;** Adult**;** Aged**;** Auditory Threshold**;** Ear Ossicles–Surgery**;** Follow-Up Studies**;** **Hearing Tests;** Middle Age**;** Retrospective Studies

Answer Set Intro 2. Hierarchically expanded search (7667 documents found)

Query 2	?**S hearing tests!** 7667 documents found.	**! hierarchically expanded or inclusive search** Only selected document records listed here.

1
● Comparison of TEOAE with Play audiometry for screening hearing problems in children.
Tags: Comparative Study**;** Female**;** Human**;** Male
Descriptors: ***Audiometry, Pure-Tone;** *Auditory Threshold--Physiology**;** *Mass Screening**;** *Otoacoustic Emissions, Spontaneous--Physiology**;** *Play and Playthings**;** **Acoustic Impedance Tests;** Child, Preschool**;** Hearing Loss, Conductive--Diagnosis**;** Hearing Loss, Conductive--Prevention and Control**;** Hearing Loss, Conductive--Physiopathology**;** Hearing Loss, Sensorineural--Diagnosis**;** Hearing Loss, Sensorineural--Prevention and Control**;** Hearing Loss, Sensorineural--Physiopathology**;** Reference Values**;** Sensitivity and Specificity

5
● Electrocochleographic evaluation of the guinea pig model of endolymphatic hydrops.
Tags: Animal**;** Comparative Study**;** Female**;** Male
Descriptors: ***Audiometry, Evoked Response**--Methods**;** *Disease Models, Animal**;** *Endolymphatic Hydrops–Diagnosis**;** Action Potentials**;** Auditory Threshold**;** Dehydration--Complications**;** Endolymphatic Hydrops–Chemically Induced**;** Glycerol**;** Guinea Pigs**;** Meniere's Disease–Physiopathology**;** Osmolar Concentration**;** Recruitment (Neurology)**;** Reproducibility of Results**;** Urea

8
● Otitis-prone children and controls: a study of possible predisposing factors. 2. Physical findings, frequency of illness, allergy, day care and parental smoking.
Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't
Descriptors: *Otitis Media–Etiology**;** **Acoustic Impedance Tests;** Acute Disease**;** **Audiometry;** Case-Control Studies**;** Causality**;** Child Care**;** Child, Preschool**;** Hypersensitivity--Complications**;** Otitis Media–Microbiology**;** Otorhinolaryngologic Diseases–Complications**;** Parents**;** Physical Examination**;** Questionnaires**;** Recurrence**;** Retrospective Studies**;** Smoking--Adverse Effects

13 = Doc. 1 from Answer Set Intro 1
● Audiometric evaluation of hearing loss in children.
Tags: Human *Descriptors*: *Deafness--Diagnosis**;** Child, Preschool**;** Cochlear Implantation**;** Deafness--Rehabilitation**;** Hearing Aids**;** **Hearing Tests;** Infant**;** Infant, Newborn

34
● Frequency discrimination of stylized synthetic vowels with a single formant.
Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't
Descriptors: *Phonetics**;** *Speech Perception**;** *Speech, Alaryngeal**;** Adult**;** Middle Age**;** **Speech Discrimination Tests;** Time Factors

44
● Developmental instability and cerebral lateralization.
Tags: Female**;** Human**;** Male *Descriptors*: *Developmental Disabilities--Physiopathology**;** *Laterality–Physiology**;** Adolescence**;** Adult**;** Child**;** Cognition--Physiology**;** Developmental Disabilities--Psychology**;** **Dichotic Listening Tests;** Face**;** Middle Age**;** Neuropsychological Tests**;** Psychomotor Performance--Physiology

0.3 Searching with combination. General explanation

The topic of this search has two components, **Hearing tests** and **Computing methodologies**. Each component expresses a different aspect or **facet** of the search topic, namely

1 **Diagnosis** or test for a specific function, such as hearing

2 **General methodology** applicable to all kinds of testing (with the more specific concept **Computing methodology** under it).

Such aspects are often called *facets***.** Another example of facets, used on ecommerce websites for clothing, is *by gender*, *by age group*, *by type of article* (shirt, pants, socks), *by season*. For now, just use your intuitive understanding of the concept; a full explanation and definition of facets will be given much later in the course.

Both facets (at least one descriptor from each) must be present to make a document relevant; this is expressed by combining the two descriptors with Boolean **AND**.

Hearing tests AND Computing methodologies.

The hierarchy under each descriptor is shown in Figure 1.

The user may be interested in all **Computing methodologies** (hierarchically expanded search) or only in a specific type, e.g. **Signal processing, computer-assisted**, or the user's interests may lie in between: She may need all documents that deal with, **Signal processing, computer-assisted** or **Computer simulation**, or both; this is expressed by combining these two descriptors from the same facet by **Boolean OR**.

Signal processing, computer-assisted OR Computer simulation

Continuing the search, here is an example of the difference between general reference and hierarchically expanded searching when combining two descriptors (just look at the numbers):

?**S computing methodologies**	**31** documents found
?**S computing methodologies!**	**73447** documents found
?**S hearing tests AND computing methodologies**	**0** documents found
?S hearing tests! AND computing methodologies!	**214** documents found

1 Explore hierarchy and facets in searching

We now start a new search to explore the effects of using more and more specific descriptors in the query formulation and of adding more components joined with AND. Answer sets are numbered from 1 in the new search.

?**B 154** Begin a new search

File 154:MEDLINE®) 1985-1998/Feb

?**limitall/maj, eng** **Limits the search to major descriptors (documents in which the topic is major), and to documents in English in all subsequent searches**

1.1 Combination search with hierarchically expanded searching: Answer Set 1

Query 1	?**S hearing tests! AND computing methodologies!**	(now limited to major descriptors, English)
	29 documents found	**Answer Set 1**

Answer Set 1. Combination search with hierarchic expansion (For Tasks 1a and 1b)

Task 1.1: Visualize the combination of descriptors from two facets in retrieval, with hierarchy in each facet. Following the examples in Documents 1 and 2, for Documents **3 - 10**, highlight the descriptors responsible for retrieval, using red for the descriptors from the **Diagnosis facet** (e.g., **Hearing tests** or **Audiometry)** and green for the descriptor from the **Methodology facet** (e.g., **Computer-Aided Design** or **Algorithms**) (see hierarchy in Figure 1). (For black and white print, red is underlined to distinguish.) The descriptors of interest are bolded to facilitate your task. In this search only major descriptors (marked with *) are used for retrieval. (**Deliverable 1a**).

For the analysis required in 1b, you need the answer sets in which document is included as given here.

1 Answer Set **1**

● Speech recognition in noise. Development of a computerized test and preparation of test material.
Tags: Human
Descriptors: ***Computer-Aided Design**; *Noise--Adverse Effects; *Speech Perception; ***Speech Reception Threshold Test**; Audiometry, Speech ; Hearing Loss, Sensorineural

2 Answer Sets **1, 2, 3, 4, 5**

● Effect of sampling frequencies and averaging resolution on medical parameters of auditory brainstem responses.
Tags: Human
Descriptors: ***Audiometry, Evoked Response**--Methods; *Evoked Potentials, Auditory, Brain Stem--Physiology; ***Signal Processing, Computer-Assisted**; Acoustic Stimulation; Adolescence; Adult; Aged; Artifacts; Child; Child, Preschool; Middle Age; Pattern Recognition; Reaction Time

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3 Answer Set **1**

● Composite probability modeling of increasing resolution where diagnostic covariates are unmeasurable for some subjects.
Tags: Human
Descriptors: ***Algorithms; *Audiometry, Evoked Response**--Statistical and Numerical Data; *Evoked Potentials, Auditory, Brain Stem--Physiology; *Models, Statistical; *Neuroma, Acoustic–Diagnosis; *Reaction Time--Physiology; Adult; Brain Stem--Physiopathology; Cochlear Diseases--Diagnosis; Cochlear Diseases--Physiopathology; Diagnosis, Differential; Neuroma, Acoustic–Physiopathology; Prognosis; ROC Curve; Sensitivity and Specificity

4 Answer Set **1**

● A neural network approach to the prediction of pure tone thresholds with distortion product emissions.
Tags: Comparative Study; Female; Human; Male; Support, Non-U.S. Gov't
Descriptors: ***Audiometry, Pure-Tone**; *Auditory Threshold; *Hearing Disorders--Diagnosis; ***Neural Networks (Computer)**; *Otoacoustic Emissions, Spontaneous; Adolescence; Adult; Aged; Aged, 80 and over; Discriminant Analysis; Middle Age; Predictive Value of Tests; Reproducibility of Results

5 Answer Set **1**

● Automated electrophysiologic hearing testing using a threshold-seeking algorithm.
Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
Descriptors: ***Algorithms; *Audiometry, Evoked Response**--Methods; *Auditory Threshold; *Hearing Disorders--Diagnosis; Adolescence; Adult; Aged; Aged, 80 and over; Audiometry, Pure-Tone; Child, Preschool; Diagnosis, Computer-Assisted--Methods; Evoked Potentials, Auditory, Brain Stem; Infant; Middle Age; Regression Analysis; Reproducibility of Results

6 Answer Sets **1, 2**

● Measurement of acoustic impedance and reflectance in the human ear canal.
Tags: Female**;** Human**;** Male
Descriptors: ***Acoustic Impedance Tests**; ***Computer Simulation**; *Ear Canal--Physiology**;** *Hearing--Physiology**;** Adolescence**;** Adult**;** Auditory Threshold--Physiology**;** Calibration**;** Neural Networks (Computer) **;** Pitch Perception--Physiology**;** Reference Values

7 Answer Sets **1, 2, 3, 4, 5**

● Electrocochleography in syphilitic hearing loss.
Tags: Female**;** Human**;** Male
Descriptors: ***Audiometry, Evoked Response**--Instrumentation**;** *Labyrinthitis–Diagnosis**;** *Neurosyphilis–Diagnosis**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** Adult**;** Aged**;** Deafness, Sudden--Diagnosis**;** Deafness, Sudden--Physiopathology**;** Diagnosis, Differential**;** Edema--Diagnosis**;** Edema--Physiopathology**;** Endolymph–Physiology**;** Hearing Loss, Sensorineural--Diagnosis**;** Hearing Loss, Sensorineural--Physiopathology**;** Labyrinthitis--Physiopathology**;** Meniere's Disease–Diagnosis**;** Meniere's Disease--Physiopathology**;** Microcomputers**;** Middle Age**;** Neurosyphilis--Physiopathology

8 Answer Sets **1, 2, 3, 4, 5**

● Intraoperative electrocochleography of endolymphatic hydrops surgery using clicks and tone bursts.
Tags: Female**;** Human**;** Male
Descriptors: ***Audiometry, Evoked Response**--Instrumentation**;** *Edema--Surgery**;** *Endolymph–Physiology**;** *Endolymphatic Shunt**;** *Intraoperative Monitoring–Instrumentation**;** *Meniere's Disease–Surgery**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** Acoustic Stimulation--Methods**;** Adolescence**;** Adult**;** Aged**;** Child**;** Cochlear Nerve--Physiopathology**;** Edema--Physiopathology**;** Meniere's Disease--Physiopathology**;** Middle Age

9 Answer Sets **1, 2, 3**

● An inexpensive alternative for recording middle ear muscle activity (MEMA) during sleep.
Tags: Comparative Study**;** Female**;** Human**;** Male
Descriptors: ***Acoustic Impedance Tests**--Instrumentation**;** *Ear, Middle--Physiology**;** *Muscle Contraction--Physiology**;** *Polysomnography–Instrumentation**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** *Sleep Stages--Physiology**;** *Transducers, Pressure**;** Adult**;** Arousal--Physiology**;** Equipment Design**;** Middle Age**;** Reference Values

10 Answer Set **1**

● Komputerwa analiza, identyfikacja I graficzna prezentacja badan ABR–system audiometrii klinicznej. [Computer analysis, identification and graphic representation of ABR research–clinical audiometric system]
Tags: Human
Descriptors: ***Audiometry, Pure-Tone**; ***Computer Graphics**; *Diagnosis, Computer-Assisted**;** *Hearing Disorders--Diagnosis**;** *Microcomputers**;** Programming Languages**;** Software Design

---

11 Answer Sets **1, 2, 3, 4**

● Analysis of the analog circuit's SNR in the selection of ADC bit resolution [letter; comment]
Tags: Human
Descriptors: ***Audiometry**--Instrumentation**;** *Equipment Design--Standards**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** *Speech Intelligibility

12 Answer Sets **1, 6**

● New draft ANSI standard enhances efforts in hearing conservation.

Tags: Human

Descriptors: ***Audiometry**--Methods**;** ***Data Interpretation, Statistical;** *Ear Protective Devices--Standards**;** *Hearing Loss, Noise-Induced--Prevention and Control**;** *Mass Screening--Methods**;** *Occupational Diseases--Prevention and Control**;** Databases, Factual**;** Equipment Failure**;** United States

13 Answer Sets **1, 2, 3**

● Simulating reflex induced changes in the acoustic impedance of the ear.

Tags: Human**;** Support, U.S. Gov't, Non-P.H.S.

Descriptors: ***Acoustic Impedance Tests**--Instrumentation**;** *Reflex, Acoustic**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** Auditory Threshold**;** Equipment Design**;** Reference Values

14 Answer Sets **1, 2, 3, 4, 6**

● An evaluation of two signal-processing hearing aids.

Tags: Comparative Study**;** Human**;** Support, U.S. Gov't, Non-P.H.S.

Descriptors: *Hearing Aids**;** *Hearing Loss, Sensorineural--Rehabilitation**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** ***Speech Reception Threshold Test;** Aged**;** Equipment Design**;** Middle Age**;** Perceptual Masking

15 Answer Sets **1, 2**

● Optimization of automated hearing test algorithms: a comparison of data from simulations & young children.

Tags: Comparative Study**;** Human**;** Support, U.S. Gov't, P.H.S.

Descriptors: ***Algorithms;** *Auditory Threshold**;** ***Computer Simulation;** ***Hearing Tests**--Methods**;** *Models, Biological**;** Analysis of Variance**;** Child, Preschool**;** Infant

16 Answer Sets **1, 2**

● Optimization of automated hearing test algorithms: simulations using an infant response model.

Tags: Human**;** Support, U.S. Gov't, P.H.S.

Descriptors: ***Algorithms;** *Auditory Threshold**;** ***Computer Simulation;** ***Hearing Tests**--Methods**;** *Models, Biological**;** Analysis of Variance**;** Infant

17 Answer Sets **1, 2, 3, 4**

● New hearing threshold measurements for pure tones under free-field listening conditions.

Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't

Descriptors: ***Audiometry, Pure-Tone**--Instrumentation**;** *Auditory Threshold**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** Loudness Perception**;** Psychoacoustics**;** Reference Values

18 Answer Sets **1, 2, 3, 4, 6, 7**

● On enhancement of spectral contrast in speech for hearing-impaired listeners.

Tags: Female**;** Human**;** Male**;** Support, U.S. Gov't, P.H.S.

Descriptors: *Hearing Aids**;** *Hearing Loss, Sensorineural--Rehabilitation**;** *Microcomputers**;** ***Signal Processing, Computer-Assisted**--Instrumentation**;** *Sound Spectrography--Instrumentation**;** ***Speech Discrimination Tests;** Adult**;** Phonetics**;** Sensory Thresholds

19 Answer Sets **1, 6**

● Classification of audiograms by sequential testing using a dynamic Bayesian procedure.

Tags: Human**;** Support, U.S. Gov't, P.H.S.

Descriptors: ***Algorithms;** ***Audiometry, Pure-Tone**--Classification--CL **;** *Bayes Theorem**;** *Hearing Loss, Sensorineural--Diagnosis**;** Attention**;** Auditory Threshold**;** Computer Simulation**;** Reproducibility of Results

20 Answer Sets **1, 2, 3, 4**

● A comparison of the variability in thresholds measured with insert and conventional supra-aural earphones.
Tags: Comparative Study**;** Human
Descriptors: ***Audiometry**--Instrumentation**;** ***Audiometry, Pure-Tone**--Instrumentation**;** *Auditory Threshold**;** ***Signal Processing, Computer-Assisted;** Adult**;** Equipment Design**;** Middle Age**;** Reference Values

21 Answer Sets **1, 2**

● Computer simulation of the patient for training in audiometry.
Tags: Human
Descriptors: ***Audiometry; *Audiometry, Pure-Tone; *Computer Simulation;** Allied Health Personnel--Education

22 Answer Set **1**

● Comparison of manual and computer-controlled self-recorded audiometric methods for serial monitoring of hearing.
Tags: Comparative Study**;** Human
Descriptors: ***Algorithms; *Audiometry**--Methods**; *Audiometry, Pure-Tone**--Methods**; *Automatic Data Processing;** Auditory Threshold--Physiology**;** Evaluation Studies**;** Follow-Up Studies

23 Answer Sets **1, 2, 3, 4, 5, 6, 7**

● Auditory brainstem evoked potentials peak identification by finite impulse response digital filters.
Tags: Female**;** Human**;** Male
Descriptors: ***Audiometry, Evoked Response**--Instrumentation**;** *Brain Stem--Physiopathology**;** *Hearing Loss, Central--Diagnosis**;** *Hearing Loss, Sensorineural--Diagnosis**;** ***Signal Processing, Computer-Assisted;** Adult**;** Algorithms**;** Evoked Potentials, Auditory**;** Hearing Loss, Central--Physiopathology**;** Hearing Loss, Sensorineural--Physiopathology**;** Reaction Time--Physiology

24 Answer Sets **1, 2, 3, 4**

● Developmental changes in high-frequency sensitivity.
Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't
Descriptors: ***Audiometry**--Instrumentation**;** ***Audiometry, Pure-Tone**--Instrumentation**;** *Child Development**;** *Hearing Loss, High-Frequency--Diagnosis**;** *Microcomputers**;** *Pitch Discrimination**;** ***Signal Processing, Computer-Assisted;** Adolescence**;** Adult**;** Auditory Threshold**;** Child**;** Child, Preschool**;** Hearing Loss, Noise-Induced--Diagnosis**;** Hearing Loss, Partial**;** Infant**;** Reference Values**;** Sound Localization

25 Answer Sets **1, 2, 3, 4**

● A comparison between coupler gain and insertion gain of hearing aids as used in partially hearing units in five schools in Belfast.
Tags: Comparative Study**;** Human
Descriptors: ***Audiometry**--Instrumentation**;** ***Audiometry, Pure-Tone**--Instrumentation**;** *Deafness--Rehabilitation**;** *Education , Special**;** *Hearing Aids**;** *Microcomputers**;** ***Signal Processing, Computer-Assisted;** Auditory Threshold**;** Child**;** Psychoacoustics

26 Answer Sets **1, 2**

● Evaluation of stopping rules for audiological ascending test procedures using computer simulations.
Tags: Human**;** Support, U.S. Gov't, Non-P.H.S.
Descriptors: ***Audiometry**--Standards**; ***Computer Simulation;** *Models, Statistical**;** Auditory Threshold**;** Psychometrics**;** Random Allocation**;** Sampling Studies

Documents 27 - 29 skipped to save space

1.2 Focusing the search: Using more specific descriptors or adding query components.

(Continuation of the search started in 1.1, **answer set numbering continues**)

This page presents the remainder of the search statements (query formulations) for the main search. The answer sets are not printed; the listing for Answer Set 1 records for each document the answer sets in which it is included. The hierarchy of the search statements is shown in Figure 3 and the search results are summarized in Figure 4.

Task 1b: Analyze the results and answer questions 1 - 4 in Worksheet 1, p. ~37.

Query 2	?**S hearing tests! AND (signal processing, computer-assisted OR computer simulation)** Result: 20 documents found. **Answer Set 2** Only two documents shown (all documents marked in Answer Set 1) **1** ● Effect of sampling frequencies and averaging resolution on medical parameters of auditory brainstem responses. **2** ● Measurement of acoustic impedance and reflectance in the human ear canal.	Second component narrower
Query 3	?**S hearing tests! AND signal processing, computer-assisted** Result: 15 documents found. **Answer Set 3** These documents are marked in Answer Set 1.	Second component narrowed further
Query 4	?**S audiometry! AND signal processing, computer-assisted** Result: 11 documents found. **Answer Set 4**	First component narrowed
Query 5	?**S audiometry, evoked response AND signal processing, computer-assisted** Result: 4 documents found. **Answer Set 5**	First component narrowed further
Query 6	?**S s1 AND hearing loss, sensorineural!** Result: 6 documents found. **Answer Set 6**	Third component added, further restricting results
Query 7	?**S s6 AND adult** Result: 3 documents found. **Answer Set 7**	Fourth component added, still further restricting results

.

C9	Otorhinolaryngologic diseases
C9.218	. Ear diseases
C9.218.458	. . Hearing disorders
C9.218.458.288	. . . Deafness
C9.218.458.500	. . . Hearing loss, partial
C9.218.458.500.481	. . . . Hearing loss, sensorineural
C9.218.458.500.481.432	. . . . . Hearing loss, central
C9.218.458.500.481.460	. . . . . Hearing loss, noise-induced
C9.218.458.500.481.772	. . . . . Presbycusis
E1	Diagnosis
E1.276	. Diagnosis, otorhinolaryngologic
E1.276.299	. . Diagnosis, ear
E1.276.299.375	. . . **Hearing tests**
E1.276.299.375.100	. . . . Acoustic impedance tests
E1.276.299.375.297	. . . . **Audiometry**
E1.276.299.375.297.45	. . . . . **Audiometry, evoked response**
E1.276.299.375.297.92	. . . . . Audiometry, pure-tone
E1.276.299.375.297.105	. . . . . Audiometry, speech
E1.276.299.375.297.105.890	. . . . . Speech discrimination tests
E1.276.299.375.297.105.902	. . . . . Speech reception threshold test
E1.276.299.375.330	. . . . Dichotic listening tests
E1.276.299.375.570	. . . . Recruitment detection (audiology)
E1.276.299.816	. . . Vestibular function tests
E1.276.299.816.250	. . . . Caloric tests
E1.276.299.816.435	. . . . Electronystagmography
E1.276.591	. . Laryngoscopy
E1.276.660	. . Nasal provocation tests

Note: The term numbers (also called codes or notations) make the connection between an alphabetical index and the hierarchy listing.

L1	Information science
L1.700	. Medical informatics
L1.700.508	. . Medical informatics applications
L1.700.568	. . Medical informatics computing
L1.700.568.80	. . . Computer systems (*with more NT*)
L1.700.568.110	. . . **Computing methodologies**
L1.700.568.110.50	. . . . Algorithms
L1.700.568.110.65	. . . . Artificial intelligence
L1.700.568.110.65.190	. . . . . Expert systems
L1.700.568.110.65.250	. . . . . Fuzzy Logic
L1.700.568.110.65.580	. . . . . Natural language processing
L1.700.568.110.65.605	. . . . . Neural Networks (computer)
L1.700.568.110.65.630	. . . . . Robotics
L1.700.568.110.85	. . . . Automatic data processing
L1.700.568.110.85.800	. . . . . Punched-card systems
L1.700.568.110.108	. . . . Computer graphics
L1.700.568.110.108.150	. . . . . Computer-aided design
L1.700.568.110.160	. . . . **Computer simulation**
L1.700.568.110.308	. . . . Image processing, computer-assisted
L1.700.568.110.308.380	. . . . . Image-enhancement (*with more NT*)
L1.700.568.110.680	. . . . Mathematical computing
L1.700.568.110.680.310	. . . . . Decision support technics
L1.700.568.110.680.310.380	. . . . . Data interpretation, statistical
L1.700.568.110.680.310.428	. . . . . Decision theory
L1.700.568.110.680.310.480	. . . . . Decision trees
L1.700.568.110.680.310.600	. . . . . Neural networks (computer)
L1.700.568.110.680.700	. . . . . Numerical analysis, computer-assisted
L1.700.568.110.800	. . . . **Signal processing, computer-assisted**
L1.700.568.180	. . . Computing milieu (*with more NT*)
L1.700.568.810	. . . Software (*with more NT*)
L1.725	. Pattern recognition
L1.725.500	. . Neural networks (computer)
L1.737	. Publishing (*with more NT*)
L1.906	. Systems analysis (*with more NT*)

Figure 2. **Medical Subject Headings (MeSH). Hierarchy ("Tree structures"). Excerpts** (Figure 1 repeated)

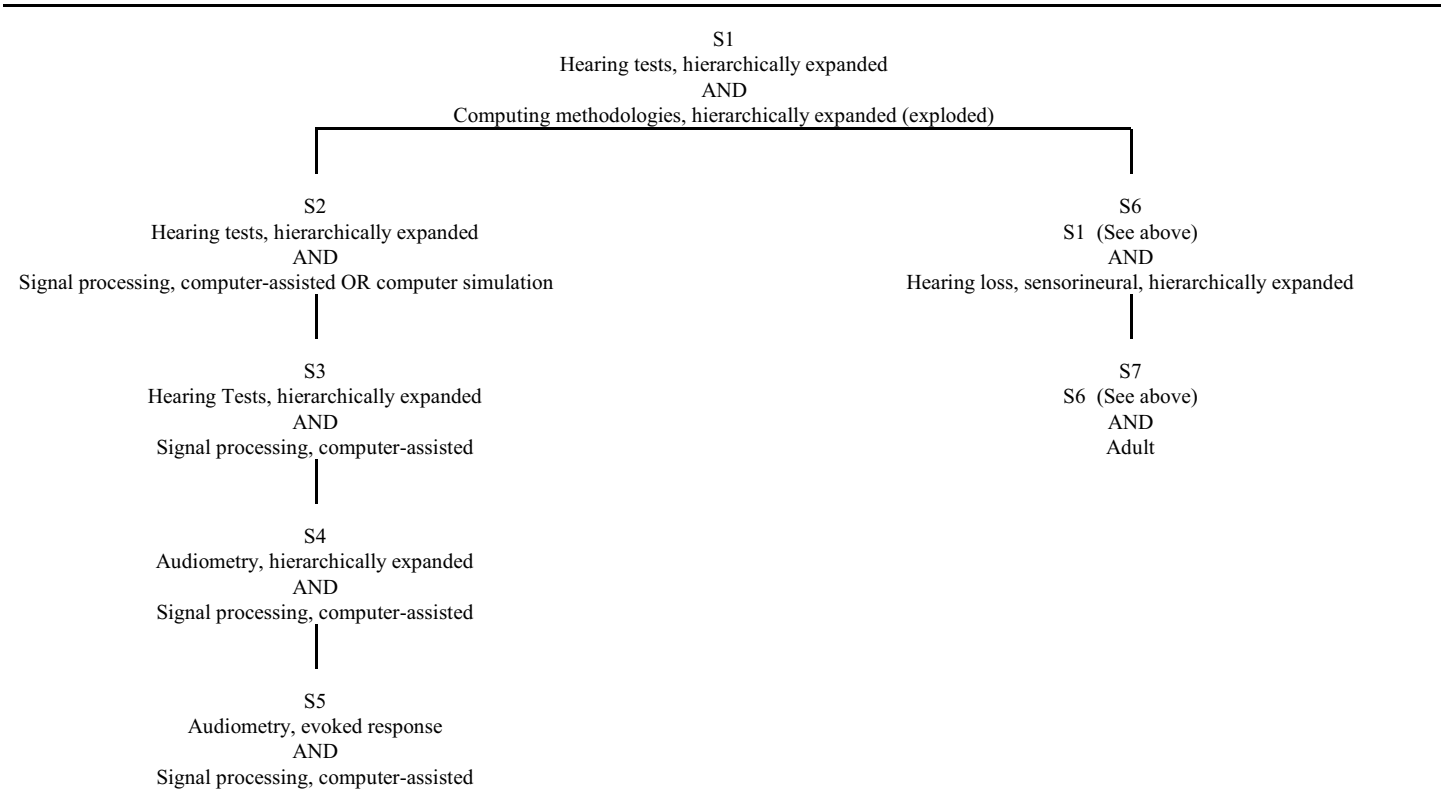

Figure 3: **Hierarchy of query formulations**

includes

	First title words	Answer Set 1	S2	S3	S4	S5	S6	S7
1	Speech recognition in noise	●						
2	Effect of sampling frequency	●	●	●	●	●		
3	Composite probability model	●						
4	A neural network approach	●						
5	Automated electrophysiologic	●						
6	Measurement of acoustic	●	●					
7	Electrocochleography in syph	●	●	●	●	●		
8	Intraoperative electrocochleog	●	●	●	●	●		
9	An inexpensive alternative	●	●	●				
10	Komputerwa analiza, identyf	●						
11	Analysis of the analog circ	●	●	●	●			
12	New draft ANSI standard	●					●	
13	Simulating reflex induced	●	●	●				
14	An evaluation of two signal-	●	●	●	●		●	
15	Optimization...children	●	●					
16	Optimization...infant	●	●					
17	New hearing threshold meas	●	●	●	●			
18	On enhancement of spectral	●	●	●	●		●	●
19	Classification of audiograms	●					●	
20	A comparison of the variabil	●	●	●	●			
21	Computer simulation of the	●	●					
22	Comparison of manual and	●						
23	Auditory brainstem evoked	●	●	●	●	●	●	●
24	Developmental changes in	●	●	●	●			
25	A comparison between coupl	●	●	●	●			
26	Evaluation of stopping rules	●	●					
27	Validation of addition and	●						
28	Temporal characteristics of	●	●	●				
29	Click-evoked oto-acoustic	●	●	●			●	●

Figure 4: Search result summary. Documents found with Queries 1 - 7

Medline Worksheet 1. Task 1b.

Questions on the main search queries using assigned subject descriptors (Task 1b)

1 What effect does focusing the query formulation have on the number of documents found?

Note for questions.2 - 4: The listing for Answer Set 1also gives for each document the other answer sets in which it was found.

2 Which descriptors are responsible for retrieving Document 6 into Answer Set 2? How about Document 7? Why is Document 7 retrieved into Answer Set 3 but not Document 6?

3 Why is Document 18 retrieved into Answer Set 4 but not into Answer Set 5?

4 In Answer Set 6 (Query: **s1 AND hearing loss, sensorineural!**), Documents 14, 18, 19, 23, and 27 all have the descriptor **hearing loss, sensorineural**, but why was Document 12 retrieved?

2 Exploring free-text search: Uncontrolled vocabulary. AND vs. (With)

Free-text search techniques **Optiona**l (Task 2, Worksheet on p. ~45)

Query 8	?**S hearing/ti AND test?/ti** Google: hearing test Result: 183 documents found Answer Set 8	Search **words in the title** (not assigned descriptors) The title must contain both words somewhere **?** is the truncation symbol (test, test**s**, test**ing** are all found) **75% of the documents found are relevant** (the restriction to title words helps); the selection here over-represents false retrieval so that the reasons for false retrieval can be explored.
Query 9	?**S hearing/ti (W) test?/ti** Google: "hearing test" Result: 36 documents found Answer Set 9.	Search in the title, word 1 followed immediately by word 2. **97% of all documents found are relevant**

Answer Set 8: **hearing/ti AND test?/ti**

1

● **Hearing tests** in extended high frequency range in pre-school age children. Initial results
Tags: Female**;** Human**;** Male
Descriptors: *Audiometry, Pure-Tone--Instrumentation**;** *Hearing Loss, High-Frequency--Prevention and Control**;** *Mass Screening**;** Adult**;** Auditory Threshold**;** Berlin**;** Child**;** Child, Preschool**;** Hearing Loss, High-Frequencyiology**;** Reference Values

2

● IHAFF loudness contour **test**: reliability and effects of approach mode in normal-**hearing** subjects.
Tags: Comparative Study**;** Human
Descriptors: *Hearing--Physiology**;** *Loudness Perception**;** Audiometry, Pure-Tone**;** Hearing Aids**;** Random Allocation**;** Reproducibility of Results**;** Speech Perception

3

● Effects of otitis on **hearing** in dogs characterised by brainstem auditory evoked response **testing**.
Tags: Animal**;** Support, Non-U.S. Gov't
Descriptors: *Dog Diseases--Physiopathology**;** *Evoked Potentials, Auditory, Brain Stem--Physiology**;** *Hearing Loss, Functional--Veterinary**;** *Otitis–Veterinary**;** Dogs**;** Hearing Loss, Functional--Complications**;** Hearing Tests--Methods**;** Hearing Tests--Veterinary**;** Otitis--Complications**;** Otitis–Physiopathology

4
● New computerized Finnish speech in noise **test** and binaural **hearing**.
Tags: Human
Descriptors: *Hearing--Physiology**;** *Speech Perception--Physiology--PH **;** *Speech Reception Threshold Test--Methods**;** Reference Values

6
● Otoacoustic emission and auditory efferent function **testing** in normal subjects and patients with sensori-neural **hearing** loss
Tags: Human
Descriptors: *Auditory Pathways--Physiopathology**;** *Cochlea--Physiopathology**;** *Hearing Loss, Sensorineural--Physiopathology**;** *Otoacoustic Emissions, Spontaneous**;** Acoustic Impedance Tests**;** Adult**;** Evoked Potentials, Auditory, Brain Stem**;** Neuroma, Acoustic–Physiopathology

7
● **Test** of the health promotion model as a causal model of construction workers' use of **hearing** protection.
Tags: Female**;** Human**;** Male**;** Support, U.S. Gov't, P.H.S.
Descriptors: *Ear Protective Devices**;** *Health Promotion**;** *Hearing Loss, Noise-Induced--Prevention and Control**;** *Models, Nursing**;** *Models, Psychological**;** *Occupational Diseases--Prevention and Control**;** Adult**;** Analysis of Variance**;** Factor Analysis, Statistical**;** Health Behavior**;** Knowledge, Attitudes, Practice**;** Predictive Value of Tests**;** Questionnaires**;** Reproducibility of Results

8 = Answer Set 9 **1**
● Preauricular tags and pits in the newborn: the role of **hearing tests**.
Tags: Human
Descriptors: *Audiometry**;** *Ear, External--Abnormalities**;** Evoked Potentials, Auditory, Brain Stem**;** Hearing Disorders--Congenital**;** Hearing Disorders--Complications**;** Infant**;** Infant, Newborn**;** Prospective Studies

11 = Answer Set 9 **2**
● Use of the distraction **hearing test** in children with congenital ocular motor apraxia.
Tags: Case Report**;** Female**;** Human
Descriptors: *Apraxia--Complications**;** *Hearing Loss, Sensorineural--Complications**;** *Hearing Loss, Sensorineural--Diagnosis**;** *Hearing Tests--Methods**;** Child**;** Eye Movements

21 = Answer Set 9 **5**
● Early **hearing testing** of still critically ill neonates.
Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't
Descriptors: *Audiometry, Evoked Response--Methods**;** *Hearing Loss, Sensorineural--Diagnosis--DI**;** *Intensive Care Units, Neonatal**;** Audiometry, Evoked Response--Instrumentation**;** Chi-Square Distribution**;** Critical Illness**;** Evoked Potentials, Auditory, Brain Stem

22
● Computer-stimulated **test** fitting of an implantable **hearing** aid using implantable **hearing** aid using three-dimensional CT scans of the temporal bone: preliminary study.
Tags: Human
Descriptors: *Cochlear Implant**;** *Image Processing, Computer-Assisted**;** *Prosthesis Fitting**;** *Temporal Bone--Radiography**;** *Tomography, X-Ray Computed**;** Deafness--Rehabilitation

29
● Efficiency of screening procedures for assigning levels of the Stanford Achievement **Test** (eighth edition) to students who are deaf or hard of **hearing**.
Tags: Human
Descriptors: *Deafness**;** *Educational Measurement**;** *Mathematics**;** *Reading

36
● Classroom attributes and achievement **test** scores for deaf and hard of **hearing** students.
Tags: Human**;** Support, U.S. Gov't, Non-P.H.S.
Descriptors: *Achievement**;** *Deafness**;** *Hearing Disorders**;** Adolescence**;** Child**;** Cohort Studies**;** Mathematics**;** Reading**;** Schools**;** Students

41 = Answer Set 9 **7**
● Correlation between the American Academy of Otolaryngology-Head and Neck Surgery five-minute **hearing test** and standard audiologic data.
Tags: Female**;** Human**;** Male
Descriptors: *Hearing Disorders--Diagnosis**;** *Hearing Tests**;** Aged**;** Middle Age**;** Questionnaires**;** Sensitivity and Specificity

47 = Answer Set 9 **8**
● Automated electrophysiologic **hearing testing** using a threshold-seeking algorithm.
Tags: Female**;** Human**;** Male**;** Support, U.S. Gov't, P.H.S.
Descriptors: *Algorithms**;** *Audiometry, Evoked Response--Methods**;** *Auditory Threshold**;** *Hearing Disorders--Diagnosis**;** Adolescence**;** Adult**;** Aged**;** Aged, 80 and over**;** Audiometry, Pure-Tone**;** Child, Preschool**;** Diagnosis, Computer-Assisted--Methods**;** Evoked Potentials, Auditory, Brain Stem**;** Infant**;** Middle Age**;** Regression Analysis**;** Reproducibility of Results

54 = Answer Set 9 **11**
● Fair **hearing testimony**.
Tags: Female**;** Human
Descriptors: *Medical Staff Privileges--Standards**;** *Obstetrics --Standards; *Physicians, Family**;** Cesarean Section**;** Expert Testimony**;** Missouri**;** Pregnancy**;** Societies, Medical**;** United States

65
● RNs **testify** at DHS **hearing**: 'our patients need protection!'
Tags: Human
Descriptors: *Health Services--Legislation and Jurisprudence; *Nurses ; *Patient Advocacy--Legislation and Jurisprudence; California; Expert Testimony; Societies, Nursing

68
● New immunobiological **tests** in the investigation of Meniere's disease and sensorineural **hearing** loss.
Tags: Female**;** Human**;** Male
Descriptors: *Autoantibodies–Analysis**;** *Hearing Loss, Sensorineural --Immunology**;** *Labyrinth--Immunology**;** *Meniere's Disease --Immunology**;** Adult**;** Autoantigens–Immunology**;** Blotting, Western**;** Hearing Loss, Sensorineural--Diagnosis**;** IgG–Analysis**;** Lymphocyte Transformation--Immunology**;** Meniere's Disease–Diagnosis–DI CAS Registry No.: 0 (Autoantibodies)**;** 0 (Autoantigens)**;** 0 (IgG)

98
● A **test** suite for **hearing** aid evaluation.
Tags: Human**;** Support, U.S. Gov't, Non-P.H.S.
Descriptors: *Acoustics**;** *Hearing Aids--Standards**;** *Signal Processing, Computer-Assisted**;** Analog-Digital Conversion**;** Mathematical Computing**;** Sound

115
● Carolina Picture Vocabulary **Test**: validation with **hearing**-impaired students.
Tags: Comparative Study**;** Female**;** Human**;** Male
Descriptors: *Deafness--Psychology**;** *Intelligence Tests**;** *Manual Communication**;** *Sign Language**;** *Vocabulary**;** Child**;** Wechsler Scales

129
● New **tests** for identifying **hearing**-impaired students with visual perceptual deficits: relationship between deficits and ability to comprehend sign language.
Tags: Human
Descriptors: *Hearing Loss, Partial--Diagnosis**;** *Manual Communication **;** *Perceptual Disorders--Diagnosis**;** *Psychological Tests**;** *Sign Language**;** *Visual Perception**;** Cognition**;** Psychometrics**;** Students --Psychology

155
● Classification of **hearing** loss in industrial workers for the purpose of expert **testimony**
Tags: Human
Descriptors: *Expert Testimony**;** *Hearing Disorders--Classification**;** *Mining**;** *Occupational Diseases--Classification**;** Disability Evaluation**;** Hearing Loss, Noise-Induced--Classification**;** Noise, Occupational --Adverse Effects**;** Poland

159
● The use of acoustical **test** fixtures for the measurement of **hearing** protector attenuation. Part II: Modeling the external ear, simulating bone conduction, and comparing **test** fixture and real-ear data.
Tags: Human
Descriptors: *Bone Conduction; *Ear Protective Devices--Standards; *Ear, External--Physiology; *Models, Anatomic; *Protective Devices --Standards; Auditory Threshold; Ear Canal--Physiology--PH; Perceptual Masking; Pitch Discrimination; Psychoacoustics

Answer Set 9: **hearing/ti (W) test?/ti**

1 = Answer Set 8 **8**

● Preauricular tags and pits in the newborn: the role of **hearing tests**.
Tags: Human
Descriptors: *Audiometry**;** *Ear, External--Abnormalities**;** Evoked Potentials, Auditory, Brain Stem**;** Hearing Disorders--Congenital**;** Hearing Disorders--Complications**;** Infant**;** Infant, Newborn**;** Prospective Studies

2 = Answer Set 8 **11**

● Use of the distraction **hearing test** in children with congenital ocular motor apraxia.
Tags: Case Report**;** Female**;** Human
Descriptors: *Apraxia--Complications**;** *Hearing Loss, Sensorineural --Complications**;** *Hearing Loss, Sensorineural--Diagnosis**;** *Hearing Tests--Methods**;** Child**;** Eye Movements

5 = Answer Set 8 **21**

● Early **hearing testing** of still critically ill neonates.
Tags: Female**;** Human**;** Male**;** Support, Non-U.S. Gov't
Descriptors: *Audiometry, Evoked Response--Methods**;** *Hearing Loss, Sensorineural--Diagnosis**;** *Intensive Care Units, Neonatal**;** Audiometry, Evoked Response--Instrumentation**;** Chi-Square Distribution**;** Critical Illness**;** Evoked Potentials, Auditory, Brain Stem

7 = Answer Set 8 **41**

● Correlation between the American Academy of Otolaryngology-Head and Neck Surgery five-minute **hearing test** and standard audiologic data.
Tags: Female**;** Human**;** Male
Descriptors: *Hearing Disorders--Diagnosis**;** *Hearing Tests**;** Aged**;** Middle Age**;** Questionnaires**;** Sensitivity and Specificity

8 = Answer Set 8 **47**

● Automated electrophysiologic **hearing testing** using a threshold-seeking algorithm.
Tags: Female**;** Human**;** Male**;** Support, U.S. Gov't, P.H.S.
Descriptors: *Algorithms**;** *Audiometry, Evoked Response--Methods**;** *Auditory Threshold**;** *Hearing Disorders--Diagnosis**;** Adolescence**;** Adult**;** Aged**;** Aged, 80 and over**;** Audiometry, Pure-Tone**;** Child, Preschool**;** Diagnosis, Computer-Assisted--Methods**;** Evoked Potentials, Auditory, Brain Stem**;** Infant**;** Middle Age**;** Regression Analysis**;** Reproducibility of Results

11 = Answer Set 8 **54**

● Fair **hearing testimony**.
Tags: Female**;** Human
Descriptors: *Medical Staff Privileges--Standards**;** *Obstetrics --Standards**;** *Physicians, Family**;** Cesarean Section**;** Expert Testimony**;** Missouri**;** Pregnancy**;** Societies, Medical**;** United States

Medline Worksheet 2. Task 2.

1 In this question you compare the controlled vocabulary search (based on descriptors / subject headings assigned from a controlled list) with free-text search (based on words occurring in the document; in our search restricted to title, but one could also look in the abstract or the full text). Look at Answer Set 1 (Figure 4); among the first 10 documents, how many would be retrieved by free-text query 8, **hearing/ti AND test?/ti**?

2 Comparing Answer Sets 8 and 9, would you advise a user who needs complete retrieval to use query 9? Why does query 9 miss so many relevant documents?

.3 Answer Set 8 includes a number of irrelevant documents. List the reasons for false retrieval that you can observe. Which of these reasons persist into query 9?

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Assignment 3 ***Assigned: Jan. 27***
Lecture 1.2 ***Due: Feb. 10***

Online Catalog Search

Learning objectives	1 Understand the significance of catalog structure, especially the record format used, for searching. P2.3.6,3# 2 Be familiar with the MARC record format. (P2.3.6.2,1#)
Materials	OCLC Connexion
Task	Explore OCLC's Connexion system for searching. This is OCLC's system for information professionals; later you will use this system for cataloging. OCLC's system for the public is **FirstSearch**, which can be used for searching several databases, including WorldCat and ArticleFirst. Think about the MARC format.
Deliverables	Worksheet (five MARC fields and two pieces of useful information not covered in MARC)
Time	1.5 hrs

Many of the examples are based on the following record from the Model Catalog (first reading).

Deese-Roberts, Susan

Library instruction : a peer tutoring mode. / [by] Susan Deese-Roberts [and] Kathleen Keating
Englewood, Colo. : Libraries Unlimited, 2000.
xiv, 212 p. : ill. ; 26 cm
Bibliography: p. 359-356
1563086522 (pbk.)
Z711.2 371.2 00-55850

[LC Call no.] [Dewey no.] [LC Card no.]

1. Library orientation for college students -- United States. 2. Peer-group tutoring of students -- United States. I. Deese-Roberts, Susan, 1953- , joint author. II. Keating, Kathleen,; 1958- joint author. III. Title (Series)

You will search for Seymour Lubetzky, the preeminent figure in cataloging in the 20th century. To save time, in the searches described below, you can copy the queries from the assignment template and paste them into the *Search for* box. (Windows tip: Use Alt-Tab (hold down the Alt key while pressing Tab) to switch between the browser and Word.)

gold

Search on OCLC/Connexion

Log in

http://connexion.oclc.org/

Authorization (Name): 100062747
Password: sils2
Click on Logon

In the bar on the top,

click on ⇨Search

Note: You can also explore other functions in Connexion, especially the Resource Catalog (Cataloging > Search > select Resource Catalog in drop-down box). It lets you view bibliographic records for all kinds of documents, including many Web sites, in a variety of formats, including MARC and Dublin Core (another standard for catalog records, especially on the Web, discussed in Lecture 7.1b).

Note: The prompt numbers you see may be different from the ones given in the following instructions. The prompt numbers may change from session to session.

Searching in OCLC/Connexion This will all become obvious as you do it.

- In the drop-down box under *Search*, select WorldCat
- In the top box labeled **Search for:** enter search criteria, then click on [Search].
- Searching in the top box is easiest. Use Boolean AND to combine search criteria. Prefixes that specify the role of the search criterion, such as **au:** for Author or **su:** for Subject can be found in the drop down box associated with the second **Search for** box.
- In the result list, click on an item number to see the detailed record. If you want to step through the entire list looking at detailed records, click on arrow next to the little box that shows the result number.
- To go back to the result list, click on [Search Results] (the browser's Back button does not work).
- You can edit the **Search for** box and click on the [Search] button for a new search. Of course, you can copy and paste to and from the **Search for** box.
- There are more things you can explore following the instructions on the screen
- To learn more, consult Help (not needed for this assignment)
- Have a look at the MARC format in front of the **Model Catalog** document (first in the reading packet)

Introduction

To search for books authored by Seymour Lubetzky, that is

Seymour Lubetzky (known starting point) —*<creatorOf>*— Book X (unknown, to find)

enter **au: Seymour Lubetzky** and click search (Lubetzky as author is in field 100 or 700)

or to search for books about Seymour Lubetzky, that is

Seymour Lubetzky (known starting point) —*<subjectOf>*— Book X (unknown, to find)

enter **su: Seymour Lubetzky** and click search (Lubetzky as subject is in MARC field 600)

The box **Indexed in:** has a drop-down list of labels for indexes. An index includes words and other strings from one or more MARC fields. See
www.oclc.org/support/help/searchingworldcatindexes/Default.htm
for a complete list of indexes and the MARC fields they cover

Start of searching (instructions are first detailed, then you just follow the same pattern)

in the Search for box, enter **au: Seymour Lubetzky** and click [Search]

In Group 2, click on Books

In the Search results, click on no. 96

You see a MARC (MAchine Readable Cataloging) record. Ignore the top gray box. You can also ignore the field tags and just read the data in the record (scroll down to the end of the record). Or you can got to Model Catalog document (the first reading) to see what the tags mean)

To see a more user-friendly record, In the drop-down box labeled **View**
select **Display Find in a Library**. A new browser tab opens. Look at the record

Note: You can click on anything blue to start a new search. For example, you could start an author search for Robert L Maxwell by just clicking on the name. Or you could search for either of the subject headings displayed.

You can find libraries based on you zip code, but that is not the focus here

Next search: **su: Seymour Lubetzky**

Select result 10 (author Hayes) and display in the same way

In the library display screen, be sure to examine the entire record (scroll all the way down)

For the rest of the exercise, just search queries are given with very few further instructions or comments. Select one or two items to display for each search; generally the MARC record will do.

au: Seymour Lubetzky AND **su: Seymour Lubetzky**

su: Henry Kissinger AND **au: Henry Kissinger** Autobiographies

au: Susan-Deese-Roberts

au: Kathleen Keating (there are several people by that name who authored books)

au: Kathleen Keating AND ti: instruction

Next search for all documents whose title (or subtitle) starts with *library instruction*. This is called a **phrase search** and indicated by = after the field label.

First try

ti: library instruction (searched as ti: library AND ti: instruction)

> Finds all documents for which both words *library* and *instruction* occur anywhere in the title, the subtitle, or an alternate title, or field 5xx. **Finds too many documents**. If we could restrict the search to the title proper, it might be ok. This is a question of *exhaustivity of indexing*, as we shall see (Lecture 13.2).

Now do

ti= library instruction

> Finds only documents for which the phrase *library* and *instruction* occurs at the beginning of the title, the subtitle, or an alternate title, or field 5xx (*the* and other articles at the beginning are ignored). Instead of over 2000 records, this finds 59

Examine the results. Note the duplication of the same title, either referring to exactly the same work or to different editions. (Note: If there was a book titled ***The*** *library instruction manual*, it would also be found)

bn: 1563086522 **I**nternational **S**tandard **B**ook **N**umber

> As you surely have noticed in earlier searches: One book, many records in OCLC

The remainder of this exercise is concerned with **subject searching**. The sample topic is *library instruction*. There are two dimensions of the query formulation that can be varied independently:

1 Format of the search argument, which can be

- **words** (which can optionally be truncated) connected with AND
- **words connected with a proximity operato**r (several choices specifying distance and whether or not sequence should be preserved). We just do w1 (words with at one word in between, sequence does not matter)
- a **phrase** (phrase must be at the beginning of an element in the record, such as title, subtitle, subject heading, or subheading)

2 Choice of indexes to search with some illustrative MARC fields included in the index

All available indexes are listed in the drop-down box *Indexed in:* Some important fields:

- kw title, subject headings, and other fields that contain words (not se or co)
- ti only title-like fields (MARC 130, 20X-24X, 730, 740)
- su subject headings and other MARC 6XX fields (also de for descriptor)
- lc Library of Congress Classification class number (MARC 050)
- dd Dewey Decimal Classification class number (MARC 082)
- other indexes, such as **se**ries, **co**rporate name, **co**n**n**ference name

Try the searches in the table and compare the results. You may need to look at a full record to understand why a document was found. (CTRL-F in the browser will help you find the word you are looking for on the page displayed.)
To get search results of manageable size, append to each query **and yr: 2000-2009**

	Boolean	Proximity	Phrase
kw	**kw: library AND kw: instruction**	**kw: library w1 kw: instruction**	
ti	**ti: library AND ti: instruction**	**ti: library w1 ti: instruction**	**ti= library instruction**
su	**su: library AND su: instruction**	**su: library w1 su: instruction**	**su= library instruction**

Notes:

From left to right, the searches go from broad to more focused.

In Boolean searches, the words could be searched in different fields, for example one word in ti, the other in kw.

It is also possible not to specify an index at all. For example, searching for just *amaranth* finds documents by or about people or organizations whose name includes Amaranth, or whose title includes amaranth (referring to the grain, a person, or a place, such as Amaranth, ON), or that are indexed by the subject heading *amaranth* (a plant of genus Amaranthus, family Amaranthaceae, cultivated on a large scale in ancient Mexico, Guatemala, and Peru for its seeds that can be used like a grain; on the upswing again).

Assignment 3 Worksheet

Reminder: The complete MARC format is given in the Model Catalog Reading

Write down five important MARC fields (number and brief caption)

Example

610 Subject Added Entry-Corporate Name

1

2

3

4

5

Give two pieces of information that users might find useful for searching and/or as information about a document but that are not covered in the MARC record
Think about ways **you** would like to search for documents.

Examples

Bestseller status
Color of cover

1

2

gold

Assignment 4. ***Assigned:*** ***Feb. 3***
Lecture 2.2 ***Due:*** ***Feb. 10***

Restructuring two sets of data using hierarchical inheritance

Learning objectives	Solidify understanding of hierarchical inheritance and its role in efficient information storage. P2.3.1,2.1
Material	1 A set of data about disasters (type, place, time (year), and number killed) represented as a set of database records (p. ~57)and as a feature comparison table (.p ~56, back of this page). 2 A set of bibliographic records (p. ~58 - ~59)
Tasks	1 Restructure the set of disaster records for more efficient storage and display. 2 Restructure the set of bibliographic records for more efficient storage and display. Follow the procedure specified in Lecture 2.2, Section 0. Note: All records are in the assignment template, so you can copy and paste information into your restructured records.
Deliverables	1 The restructured set of disaster records 2 The restructured set of bibliographic records
Time	1.5 hours
Further Explanation	**Submit your first attempt, if it is not correct we will send you a partial answer.** Follow the steps detailed in Lecture 2.2, Section 0. A semantic network representation of the disaster data can be found in the supplement SAssignment 4

gold **Representation of the disaster data in a feature comparison table**.

Find columns that agree in many pieces of information

Disaster Features	**Disaster Event 1**	**Disaster Event 2**	**Disaster Event 3**	**Disaster Event 4**	**Disaster Event 5**	**Disaster Event 6**	**Disaster Event 7**
Plane Crash	●		●	●		●	
Earthquake		●			●		●
France	●		●	●		●	
India		●			●		
California							●
1993	●	●	●	●			
1995					●	●	
1996							●

Representation of the disaster data in a set of database records

Original database

Event no. 1
Type: Plane crash
Place: France
Time: 1993
Number killed: 10

Event no. 2
Type: Earthquake
Place: India
Time: 1993
Number killed: 20

Event no. 3
Type: Plane crash
Place: France
Time: 1993
Number killed: 100

Event no. 4
Type: Plane crash
Place: France
Time: 1993
Number killed: 30

Event no. 5
Type: Earthquake
Place: India
Time: 1995
Number killed: 400

Event no. 6
Type: Plane crash
Place: France
Time: 1995
Number killed: 20

Event no. 7
Type: Earthquake
Place: California
Time: 1996
Number killed: 5

Restructured database
(if you want to fill in by hand)

Bibliographic records

as search results might be displayed by an OPAC, newest first
Records formatted mostly by RDA (Resource Description and Access) with a few AACR2 remnants**.**

Document 1

245 00	Reference and information services : $b an introduction / $c general editors, Richard E. Bopp, Linda C. Smith.
250	4th edition
260	Santa Barbara, California : $b Libraries Unlimited, $c c2011.
300	xxiii,743 pages : $b illustrations ; $c 26 cm.
336	text $b txt $2 rdacontent
337	unmediated $b n $2 rdamedia
338	volume $b nc $2 rdacarrier
504	Includes bibliographical references and indexes
650 0	Reference services (Libraries)
650 0	Information services.
700 1	Bopp, Richard E..
700 1	Smith, Linda C.

Document 2

100 1	Katz, William A., $d 1924-2004.
245 10	Introduction to reference work. $n Vol. 1, $p Basic information services $n Vol 2, $p Reference services and reference processes / $c William A. Katz.
250	8th ed.
260	Boston ; $a London : $b McGraw-Hill, $c c2002.
300	2 volumes (xvii, 504 pages; 221 pages) ; $c 24 cm
336	text $b txt $2 rdacontent
337	unmediated $b n $2 rdamedia
338	volume $b nc $2 rdacarrier
500	Previous edition: 1997.
504	Includes bibliographical references and index.
650 0	Reference services (Libraries)
650 0	Reference books $v Bibliography.

Document 3

245 00	Reference and information services : $b an introduction / $c general editors, Richard E. Bopp, Linda C. Smith.
250	3rd edition
260	Englewood, Colorado : $b Libraries Unlimited, $c 2001.
300	xxiv, 617 pages : $b illustrations, maps ; $c 26 cm.
336	text $b txt $2 rdacontent
337	unmediated $b n $2 rdamedia
338	volume $b nc $2 rdacarrier
504	Includes bibliographical references and indexes
650 0	Reference services (Libraries)
650 0	Information services.
700 1	Bopp, Richard E..
700 1	Smith, Linda C.

Document 4

100 1 Katz, William A., $d 1924-2004.
245 10 Introduction to reference work. $n Vol. 1, $p Basic information services $n Vol 2, $p Reference services and reference processes / $c William A. Katz.
250 7th ed.
260 New York ; $a London : $b McGraw, $c 1997.
300 2 volumes (512 pages; xv, 221 pages) ; $c 24 cm.
336 text $b txt $2 rdacontent
337 unmediated $b n $2 rdamedia
338 volume $b nc $2 rdacarrier
500 Previous ed. 1992.
504 Includes bibliographical references and index.
650 0 Reference services (Libraries)
650 0 Reference books $v Bibliography.

Document 5

245 00 Reference and information services : $b an introduction / $c general editors Richard E. Bopp, Linda C. Smith.
250 2nd edition
260 Englewood, Colorado: $b Libraries Unlimited, $c 1995.
300 xxiv, 626 pages : $b illustrations, maps ; $c 27 cm.
336 text $b txt $2 rdacontent
337 unmediated $b n $2 rdamedia
338 volume $b nc $2 rdacarrier
504 Includes bibliographical references and indexes
650 0 Reference services (Libraries)
650 0 Information services.
700 1 Bopp, Richard E..
700 1 Smith, Linda C.

Document 6

100 1 Katz, William A., $d 1924-2004.
245 10 Introduction to reference work. $n Vol. 1, $p Basic information services $n Vol 2, $p Reference services and reference processes / $c William A. Katz.
250 6th ed.
260 New York : $b McGraw, $c c1992.
300 2 volumes (512; xvi, 255 pages) ; $c 24 cm.
336 text $b txt $2 rdacontent
337 unmediated $b n $2 rdamedia
338 volume $b nc $2 rdacarrier
504 Includes bibliographical references and index.
650 0 Reference services (Libraries)
650 0 Reference books $v Bibliography.

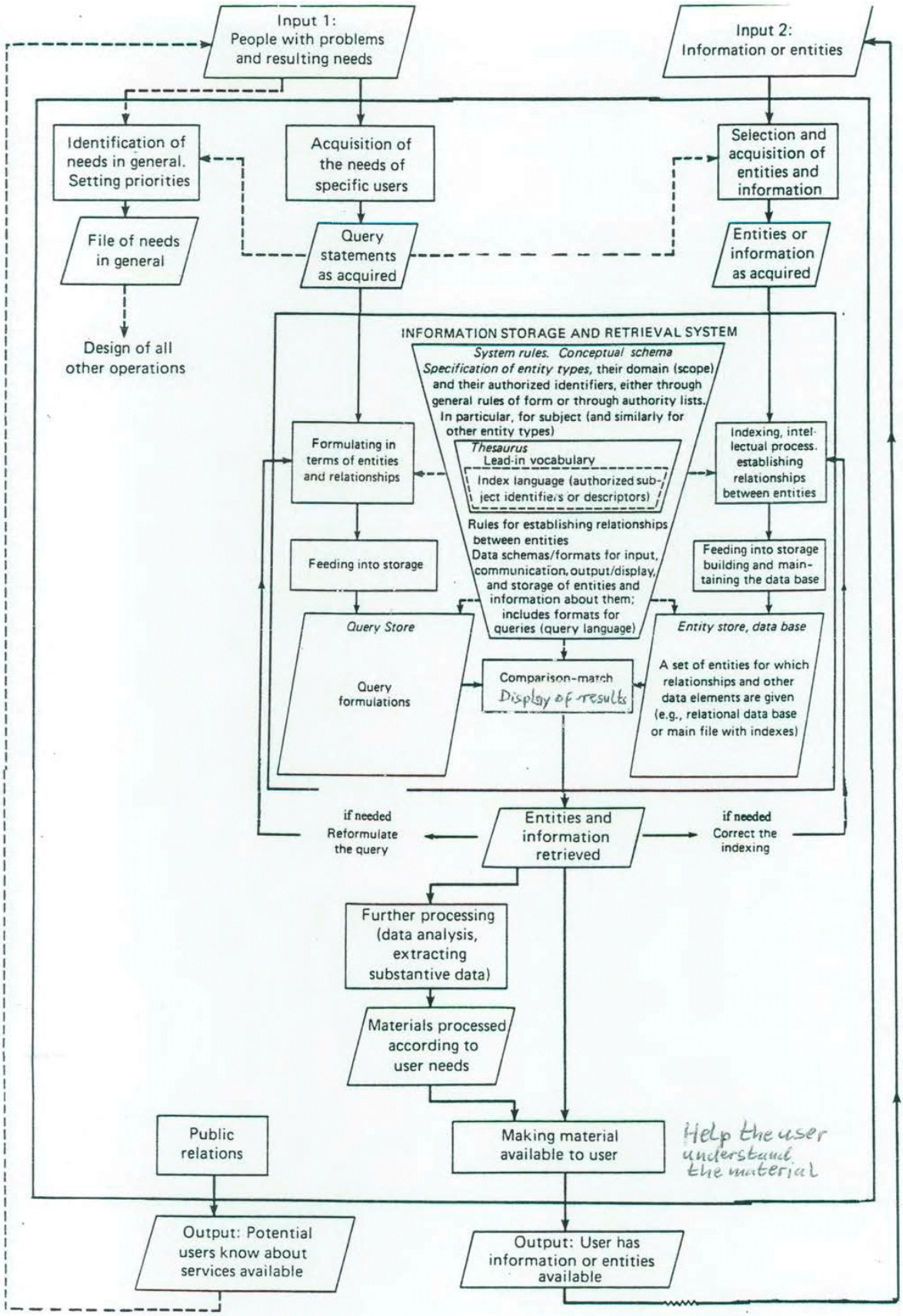
Document 7

245 00 Reference and information services : $b an introduction / $c general editors: Richard E. Bopp [and] Linda C. Smith.
260 Englewood, Colorado : $b Libraries Unlimited, $c 1991.
300 xx, 483 pages : $b illustrations ; $c 26 cm.
336 text $b txt $2 rdacontent
337 unmediated $b n $2 rdamedia
338 volume $b nc $2 rdacarrier
504 Includes bibliographical references and indexes
650 0 Reference services (Libraries)
650 0 Information services.
700 1 Bopp, Richard E..
700 1 Smith, Linda C.

gold **Assignment 5** ***Assigned: Feb. 10***
Lecture 3.1 ***Due: Feb. 17***

Analytical description of an information system

Learning objectives	1 Know and understand the functional components of an information system. (P2.0.2). Be able to use this framework to analyze and critique an information system, such as library. (P2.0.2,1) 2 Develop analytical skills in general. (P3.1.4)
Materials	Textbook Chapter 5, especially Sections 5.1 and 5.3. The combined information systems diagram, repeated from Lecture 3.1, which combines from *Organizing Information* Figure 5.1c, *Information systems. Complete structure*, and Figure 5.6, *The structure of an ISAR system* The template provided which is based on Chapter 5. Three sample analyses from students in previous semesters. [in Supplement, Slecture 3.1] Note: These do not follow the template but include the required information. Your knowledge of the information system you chose to analyze
Tasks	Analyze and describe the organizational and technical set-up of the library or information center where you work or some other system for which you can find the needed information. If you work in a branch library, your analysis needs to cover central functions where these are essential to the operations of your branch. Your analysis must include the following information, arranged according to the template. 1 Identify the organizational units performing the functions (processes) shown in the combined information system diagram (see Materials below) (If there is no unit for a given function, please say so.) Briefly indicate how each function is performed. 2 Identify the files shown in the diagram. Briefly indicate for each file purpose and form (computer file, card file, book, etc.). 3 Name the document(s) that describe the conceptual data schema and other rules used in the system; characterize the rules briefly.
Deliverables	A description using the attached template (p. ~63) Length 2-3 pages Times Roman 12 pt single-spaced.
Time	3 hours



Text Figures 5.1c and 5.6 combined

Repeated from page 58 Lecture 3.1

Template for information system description

Processes Files

1 System rules
- 1.1 Name of the conceptual data schema / document that describes it
- 1.2 Knowledge Organization System(s) used (classification, subject heading list, index language, thesaurus)

2 Acquisition and input of user needs
- 2.1 Target user group, their problems, needs, background
- 2.2 *Identification of user needs in general. Setting priorities. How done? By whom?*
  - 2.2.1 Resulting file / description of user needs in general
- 2.3 *Acquisition of the needs of specific users. How done? By whom?*
  - 2.3.1 Resulting query statements as acquired
- 2.4 *Formulating queries in terms of entities and relationships (often just free terms or class numbers with relationship type implied as Document <hasSubject> or left unspecified (meaning just occurring in the text of the document)*
- 2.5 *Feeding formulated queries into storage*
  - 2.5.1 Query store

3 Acquisition and input of information or entities
- 3.1 Information or entities "out there" (e.g., medical knowledge in textbooks and other documents, all published books, etc.)
- 3.2 Collection development policy could be considered parallel to 2.2
- 3.3 *Selection and acquisition of information or entities How done? By whom?*
  - 3.3.1 Resulting file: Information or entities as acquired (before processing)
- 3.4 *Indexing, intellectual process. Establishing relationships between entities. Examples: Creating MARC records. Using every string in a text as index term*
- 3.5 *Feeding structured data into storage*
  - 3.5.1 Entity store consisting of structured data (medical knowledge represented in E-R statements, MARC records)

4 Finding and showing answers. Comparison, match, inference
- 4.1 *Finding answers. Comparison, match, inference*
- 4.2 *Displaying results*
  - 4.2.1 Display of information or entities retrieved

5 Delivering information or entities to the user for application
- 5.1 *Further processing of information*
  - 5.1.1 Information processed and presented for easy application
- 5.2 *Making material available to the user*
  - 5.2.1 File of information or entities in the hands of the user
- 5.3 *Help the user understand and apply the information or entities*
  - 5.3.1 User's updated mental image (You need not say anything about that)

6 Public relations How done? By whom?
- 6.1 Potential users know about services available (You need not say anything about that; one could do a study determining how much users know about the services.)

gold

Assignment 6 ***Assigned: Feb. 17***
Lecture 4.2 ***Due: Feb. 24***

Developing a conceptual data schema

Learning objectives	Deepen understanding of the concepts from Textbook Ch. 3 and Section 9.1 Be able to construct a conceptual data schema for an information system (P2.3.1,1.3) In particular, be able to 1 identify entity types that reflect only intrinsic properties and not relationships to other entities (Person **not** Author, Text **not** Title) P2.3.1.1.3.1; 2 identify relationship types P2.3.1.1.3.2; 3 find easy-to-understand terms for entity types and relationship types P2.3.1.1.3.3.
Materials	
Tasks	Picture the information system for **one** of the following types of business: • a hospital • a movie production company • an airline • another type of organization (e.g., a school) with instructor approval Design a conceptual data schema for the information system you selected. Start by listing 5 - 7 sample questions that the information system must be able to answer. Formulate questions that require a database to find the answer(s) **(See below for examples of good and bad questions.)** List the entity types and relationship types required. For each entity type: Indicate how the permissible entity values are specified. Example: see Assignment 1, Perseus exercise, Section 4. For each relationship type (statement template): **Give an example of an actual statement** that would be included in the database. Focus on some of the central functions of the business that are supported by data in a database. For example *In which bed is Fred Smith?* is a central question in a hospital information system; the hospital cannot function if it is not known where the patients are. *Who is the nurse employee of the month?* is at the fringe; the hospital can function without this information. Your schema need not be complete; ~10 entity types, ~7 - 10 relationship types.
Deliverables	A list of sample questions An entity-relationship conceptual data schema (as done in class) For each relationship type you must give at least one example statement
Time	1.5 hours

Definition of *conceptual data schema* on next page

Definition of *conceptual data schema* (as a reminder)

The conceptual data schema of an information system is a specification of the types of information to be stored. In this course, this specification is given by listing the entity types that are covered in the information system and the relationship types that can be used to combine entities into statements. Put differently, the conceptual data schema defines statement templates:

Relationship type,
Statement template,
connects entity types, part of the conceptual data schema

entity type		entity type
Book, intellectual work	*<hasTitle>*	Text

Each piece of information in the system can be seen as a statement that follows one of these statement templates, replacing each entity type, such as Person, by an entity value belonging to that type, such as Eye, Glen G. For example:

Statement,
connects entity values, not part of the conceptual data schema

entity value		entity value
ISBN-1563086522	*<hasTitle>*	Library instruction

Put differently, each entity type in a statement template is a place holder for an entity value. By replacing the place holders with entity values we get a statement. For a given statement template, there may be thousands or even millions of statements that follow the template. In this assignment, you need to give for each relationship type / statements template one actual statement; this is to make sure that the statement template makes sense.

Examples of good and poor questions (for developing a conceptual data schema)

Since this assignment is about developing the conceptual data schema for a database, good questions are questions that would be answered from a database rather than questions that would be answered from a policies and procedures manual, as illustrated below.

Database question (good questions f. Ass. 6)	**Policies and Procedures Manual question (poor questions f. Ass. 6)**
Database for the operation of an airline	
On which flight is the bag with tag UA32651?	What are the maximum dimensions for carry-on?
	How many pieces of luggage can I bring on a flight?
What meals are served on Flight 763? (if the airline serves food)	Does the airline serve food? Note: For a single airline, this is a policy question. For a database of all the world's airlines, this would be a database question
Are upgrades available on Flight 763 on February 22, 2010?	How can I upgrade to first class?
Is there an aisle seat available on Flight 212 on March 15, 2010	How do I book a flight online?
Database for the operation of a university	
Give me alist of all students who have an Incomplete	What is the procedure for making up an Incomplete?
Who is the advisor of Joseph Smith?	How do I change my advisor?
I need a list of advisees of Prof. Jeng	
How many spaces are open in UBLIS 581 (as of today)	What is the first day of registration?
What are the prerequisites for UBLIS 569?	
Am I eligible to take UBLIS 569? (as of today) (inferred from prerequisite information and the courses the student asking the question has completed)	

gold

Term paper assigned: Jan. 27 Name:
Description (this form) due: Mar. 2
Term paper due: May 18 (by email)

Term paper description

Title:

One-sentence statement of purpose (absolutely required):

Description (½ page):

See the following pages for further instructions for the term paper.
The topic must be approved by the instructor based on this term paper description.
You are welcome to explore possible topics with the instructor by email, by phone, or in person before or after submitting the term paper description.

gold **Term paper**

Major option (You must choose this option if your midterm grade below A-)
Design a new information system or analyze an existing one with focus on the information retrieval (IR) system, applying all the concepts from the course. This option helps you to better understand course concept by seeing how they work together in one system. See further instructions on this option on the next page.

Advanced option (You **may** choose this option if your midterm grade is A- or better or with instructor permission)
A reflective essay on a course-relevant theme of your choice, guideline 4,000 - 5,000 words. Make connections between ideas gleaned from the readings, assignments, and class discussions. Reflect on what you have learned and what insights you gained. Consider implications and applications, particularly to your present or expected future work or other courses. You can identify issues, questions, problems for further study. This can be a personal essay that reflects your personal experience and views.

You can write this essay based on the required readings and lectures without consulting further sources. This is a task of integration, not of expansion. In the past some students have chosen topics that required further reading due to their own interests; not prohibited, but not encouraged.

For either option: Throughout the course, as ideas and connections occur to you, jot them down.

Format **The paper must have a title**

Begin with a one-sentence statement of the general purpose of your essay. The remainder of the first paragraph should elaborate on the purpose, possibly stating several specific purposes. Enlighten the reader as to why s/he should read your paper.

Divide the paper into **numbered sections with informative headings**.

See "Soergel's supplemental style rules" in the readings for Lecture 6.2, also attached here

To make application of course concepts explicit, include at least five specific references to readings or lectures. Only if your essay does draw on other sources are further citations required in line with general practice; citation format is up to you.

Length. Expected 4,000 - 5,000 words (mostly your own words, not voluminous quotations). no upper limit. Ultimately it is the content that matters.
Format. Single spaced, 1" margins, Times Roman 12 points. For major option use the template.

Term paper grading criteria. The following criteria contribute to a holistic assessment:

- Level of understanding of course concepts shown in the paper. Insights discussed
- How well are ideas integrated and related
- How well are course concepts applied in discussing the term paper topic or in analyzing or designing an information system.
- Connections drawn to other courses
- Implications for present and/or future work
- Innovative and interesting ideas

Guidelines for term papers on existing or to be designed IR systems

For **the design of a new IR (Information Retrieval) system** or for the **description, analysis, and critique of an existing IR system** such as database available through EBSCO, Dialog, or on a website or a library catalog, **follow these guidelines**

Mandatory outline (template)
for information retrieval system design or description, analysis, and critique
The template is found in the Assignment Templates 14a. Please use it to achieve uniformity across papers.

1 **Analysis of user needs**
This is the basis for critical analysis an innovation in information systems. Do not describe how people use the present system; that just reflects the limitations of the present system or the limitations of the users' ability to get the most of the system. Any conclusion that the system works well based on looking merely what users do now is mostly a tautology: The system serves the way people use it, but peoples' use is conditioned by what the system can do, in short, the system can do what the system can do. So do take a step back, develop a picture of users' problems and tasks, and think out of the box on how information could support users' work (where students' work is learning. Some methods are described in Soergel, Organizing Information, Chapter 7. In real life you would need to conduct a user requirements study or do a thorough literature of such studies, if available. In a system description or design term paper, you need to draw on perhaps one relevant publication and your own knowledge of the needs of the system's audience (perhaps informed by your own experience as a use) to come up with a brief description of user needs.
As one result of the analysis present a list of potential information problems / topics / queries that might arise from the audience as the basis for analyzing or developing an E-R conceptual data schema.

2 **Entity-relationship (E-R) conceptual data schema**.
This may take some effort to construct. Often you can work from a record format that is given, but sometimes you need to look at sample records or at the search criteria that can be used. This requires ideally a full conceptual data schema, realistically one that has the most important entity types and relationship types for the system. This will take at least one page. The course provided practice and examples in Lectures 4.2a and b and Assignment 6. You may need to reengineer the conceptual data schema from the record format given for the system. Lecture Notes 4.2a, *Correspondence between fields in the MARC record and relationship types* gives an example of that; study that example and follow it..
You also need to analyze whether the conceptual data schema supports answering all the queries you listed in Section 1. For example, if a query asks for documents at a given reading level but the conceptual data schema does not include
Document <hasReadingLevel> Reading Level
there is a problem.

3 **The index language(s) used and its (their) suitability for the needs of the intended audience.**
First analyze and critique the formally defined index language(s), if any. For example, most academic libraries use the Library of Congress Classification and the Library of Congress Subject Headings as two formally defined index languages; Medline uses the Medical Subject Headings and a list of check tags (Soergel, Organizing Information, p. 241. The concepts to be

used in this analysis are presented in Soergel, Organizing Information, Chapters 14 and 15, Lectures Part5 (Weeks 8 - 13) and Assignments 12.1-3b and 13.1-4. Use the *Outline for the Analysis of KOS* (purple sheet) as a guide.
If there is no formally defined index language in the system, there is only free-text searching which uses natural language (just English or any language) as the index language; in that case you must discuss how useful free-text search is for the intended audience. Even if the system you are analyzing uses a formally defined index language it most likely also allows free-text searching; in that case, you may discuss how useful free-text search is for the intended audience

4 **Indexing process**

Discuss how the conceptual data schema and the index language are used to enter data into the database (indexing very broadly defined). Soergel Organizing Information Chapters 13 and 16 and Assignments 10 and 11 are particularly important here. Unless you have access to an indexing manual or other document that describes the rules for and practice of indexing in your system (a Google search may find one), you need to draw some inferences from looking at records. Also be aware that in many cases the indexing is done outside the organization that otherwise maintains and uses the system you are analyzing. You still need to find out as much as you can about the indexing process.
This section should address the following questions, among others
Who does the indexing? People or computer program or combination? (Could be the users as in social tagging).
What approach is used in indexing: Entity-oriented or request-oriented?
What is the process of indexing? What information is used in indexing?
What is the exhaustivity of indexing?
Are weights used in indexing?

5 **Searching**

Discuss how searches can be done (through queries, through navigation, through a combination). Do some sample searches and see how they work; include sample searches and search results in the paper (sample documents found in the text, search result list in an appendix) and provide an analysis. Comment on the search interface. How useful are the ways to search and the search interface to the intended audience? Further specific points to consider:
What are the options for query formulation? Does the system support fielded searching?
Does the system apply spelling correction to user input?
Does it provide type-ahead choices?
Does it provide synonym expansion? Using what thesaurus?
Does it support inclusive (hierarchically expanded searching?

6 **Conclusion**

Summarize your analysis. List good features, bad features, missing features to assess how well the system meets the user requirements.

Over

General notes

In Assignment 5 you analyzed the entire information system.
Here focus on the information retrieval subsystem.

Be analytical and critical, considering how well the system, and its different components, serve user needs; for example, does the conceptual data schema provide for all the types of information needed to answer users' questions. You can intersperse critique throughout or have a section at the end.

You must apply and refer to course concepts. It will make your analysis better and it will demonstrate that you understand.

For a long list of databases and information about each see

www.proquest.com/products-services/title-lists/ProQuest-Dialog-Prosheets.html

Or check the UB libraries catalog

Some sample term papers will be made available as a pdf. URL will be posted

www.dsoergel.com 2014

Soergel's supplemental style rules

1 Announce what your paper is about

1.1 Devise a **good title**

1.2 Start the paper with a **one-sentence statement of purpose**. Don't keep the reader guessing as to why she should read this. Give results or claims early

2 Keep content logic and physical expression in sync.

2.1 Sections

2.1.1 Divide your paper into **numbered sections**.

2.1.2 Use an **expressive numbering scheme**, either 1, 1.1, 1.1.1 or A, A1, A1.1
(The 1, 1.1, 1.1.1 scheme is actually an international standard)
Roman numerals have been found inefficient more than a thousand years ago. The usual numbering style (often taught in English 101 no less) I, A, 1, a, gives only the symbol for the present level and provides the reader very little orientation as to what section and subsection she is in.

2.1.3 **Bold section headings**

2.2 Use **bulleted or numbered lists** whenever separable points can be identified (as in stages of a process, or reasons in an argument). Separated items can be taken in much faster by the reader.
Note: White space is good; to save trees use recycling not cramped presentation.

2.3 Arrange text in logical blocks

2.3.1 **Use boxes to set off the main points of an argument** (a box may look like a slide you would use for a talk). Preparing slides is a great way to crystallize the points you want to make. (One doctoral student discovered a very interesting way to analyze her data while preparing the slides for the defense.)

2.3.2 **Use boxes to set off examples and detailed explanations** that are not necessary to understand the main line of your argument.
Note: A single-cell table is the simplest way to make a box.

2.3.3 **Keep text that belongs together on the same page**.

2.3.4 In slides and lists: **Put line breaks at meaningful points**; for example, do not break in the middle of a multi-word phrase (could get a computer program to implement this rule). (In Word, Shift-Enter makes a new line without starting a new paragraph.)
(See example at end)

3 Use easy words when they will do, but interesting words that are spot-on

3.1 Don't use a 50-cent word when a 25-cent word will do

Instead of	Use
utilize or employ	use
has to	must
on a daily basis	daily

3.2 Consistently use the same word for a given concept.

Avoiding repetition is a much overrated principle for scientific and scholarly writing. Using different words for the same concept only confuses the reader.

4 Miscellaneous formatting

4.1 Use **left justification**
This avoids hard-to-read irregular spacing between words. Full justification (the default in many word processors) gives the illusion of professionally typeset text, but quality typesetting distributes the spacing between words in a line evenly.

4.2 **Avoid quotation marks by using italics**

4.3 **Avoid underlining** (or use very sparingly). Use as bold or italics instead.

4.4 **Avoid using all caps**. Use large and bold or such instead

4.5 **Do not center text** unless there is a good reason. Several lines of centered text are hard to read.

4.6 In a long document, **use running headers at the top of the page** indicating the section. A lot of work, but it keeps the reader oriented.

4.7 In tables, avoid a cramped appearance by using top and bottom cell margins of .04 - 0.1 inches depending on the font size. In MS Word, right-click, select Table Properties > Options > Default cell margins, enter values.

5 Avoid fool rules

Follow common usage when it is helpful, deviate when there is good reason.
For example, in a bibliography the title of the piece (whether a book or a journal article) is most important and should be highlighted, contrary to common practice (such as in the APA rules). Unfortunately, many people suspend thought and follow conventions, no matter how illogical or lacking in usefulness:

"When I read some of the rules for speaking and writing the English language correctly...I think--

Any fool can make a rule
And every fool will mind it."

-- Henry David Thoreau (1817-62), American writer, author, naturalist.

6 For slides

Note: You would be surprised how many slides presented at conference violate the simple rules laid out here. Paradoxically, people specializing in human-computer interaction are often the worst offenders.

6.1 **Avoid gimmicks**, such as flying in titles or making one point of a list appear at a time – all distractions. Animation used judiciously can be quite useful, but often animation is gimmicky and distracting.

6.2 **Use high contrast**
Black on white is best contrast, especially in a lighted room

In a dark room, **white on black or very dark blue** can look quite elegant.
Avoid textured background at all cost.
If you want to set off a block of text through a colored background, use a very light pastel color

6.3 Use graphics to make a point, not as mere decoration
Slides with graphics are more interesting.
Sometimes a diagram that shows how different ideas or concepts interrelate is easier to understand than discursive text

6.4 Use Arial font Make the font big enough, particularly for a large room.
20 points is generally just large enough.

6.5 In a bulleted list, **put enough spacing between bullets** (at least .6 lines).
For sub-bullets, use somewhat less spacing, .4 or .3 lines.
The idea is to make logical divisions of the text visible through physical blocks

6.6 Make sure the bullet has a good distance from the text (not glued on, not too far away) and make sure **all text under a bullet is aligned properly** at the left (easy to do with the PowerPoint ruler).

6.7 Make the **key points or phrases in each bullet (colored) bold** to give structure to a text slide and let the reader pick up the main ideas quickly.

Example for sensible line breaks	
Compare	**Expanding the possibilities of deliberation: the use of data mining for strengthening democracy with an application to education reform**
With	**Expanding the possibilities of deliberation: the use of data mining for strengthening democracy with an application to education reform**

Appendix. Some more specific rules

Delete Meaningless Words

Some words are just useless verbal ticks we use in speech that have no place in writing: Such meaningless words are seen commonly in writing:

It is of interest to note	*Due to the fact that*
In a sense	*Basically*
Interestingly	*Draw your attention to*
That said…	*the fact that*
In order to	*Indeed*
Clearly	*It goes without saying*
	As already stated

These phrases do not belong in writing—they are meaningless yet commonly used.

Phrase	Replace with
It is clear that	Clearly (or just omit)
In the event that	If
At the present time	Now
Due to the fact that	Because
Subsequent (prior) to	Before
Due to circumstances that	Because or since
In a careful manner	Carefully
Have an effect on	Affect
In order to	To
On a daily basis	Daily
On a regular basis	Regularly
On a ... basis	Find a better expression

See https://www.prismnet.com/~hcexres/style/pompous_words.html

gold **Assignment 7** ***Assigned: Mar. 2***
Lecture 6.1b ***Due: Mar. 9***

Develop a document template

Learning objectives	Be able to design a document template or template system at the conceptual level so it can be implemented by the IT department. (P2.3.1,5.3)
Materials	None
Tasks	Develop a document template with explanation as instructed in the assignment.
Deliverables	The document template with explanation
Time	2 hours

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Select **one** of the scenarios given in the table below or create your own scenario and email the instructor for approval. It helps if you know something about the subject domain of the documents. URLs are given just in case you need to get some subject knowledge or you want to find out more about the type of document in the scenario, but use your own judgment of what information would be useful to a reader of the type of document you choose.

The template you develop should serve two purposes:

1 To make it easier for the document creator
2 To make it easier for the reader, particularly if the reader must read many documents of the same type or wants to compare what two documents say

In this assignment you just specify the items of information to be included in the documents and where this information comes from. You can make reasonable assumptions on the availability of certain pieces of information in a database – existing or to be created. You need not worry about syntax. A complete document template would also specify the layout of the document, in print or on the Web, but this is excluded from your task in this assignment.

Give an explanation of and rationale for the template you developed

Scenarios for developing a document template (select <u>one</u>)

Scenario	Organizational context Assistance to authors	Communication function of the finished documents
1 Review	For all: Help the reviewer write the review	
1a of books	www.booklistonline.com Choice Magazine www.ala.org/acrl/choice/about	Help readers and library book selectors choose books
1b of manuscripts submitted to a journal	A scholarly journal, such as www.asis.org/jasist.html	Help the editor decide whether to accept or reject a manuscript
1c of software	A computer magazine, such as PC Magazine www.pcmag.com	Help individual users and organizations select software
1d of learning objects	A website that provides access to learning objects, such as [2]	
1e choose your own		
2 Adverse reaction reports	FDA Adverse Event Reporting System (FAERS)[1] From MedWatch reports submitted by physicians, hospitals, and consumers to FDA	Learning about adverse effects of drugs and their circumstances so physicians and patients can be warned
3 Art exhibit labels	Museum. Help the curator to produce the labels	Tell museum visitors about an art object in an exhibit

[1]) http://edutechwiki.unige.ch/en/Learning_objects_repositories

[2]) www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/
http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Forms/UCM349464.pdf

gold **Assignment 8** ***Assigned: Mar. 9***
Lectures 7.1b-7.2b ***Due: Mar. 30+***

Descriptive Cataloging using MARC and AACR2 / RDA

This assignment consists of two parts: Assignment 8.1. Descriptive cataloging exercise
Assignment 8.2. Descriptive cataloging practice

Learning objectives	**General principle** This exercise is not about acquiring specific bits of knowledge but about learning **how to find specific bits of knowledge** needed for the task at hand. It is not about learning specific cataloging rules but about learning **how to find the cataloging rules that apply** to the work or manifestation to be cataloged. **Specific objectives** (from the list for Lectures 7.1a - 7.2b, Lecture Notes p. ~241) 1 **Be able to catalog** (both copy cataloging and original cataloging) **consulting the rules**: the record format (such as MARC or Dublin Core) and the cataloging rules (such as AACR2 or **RDA**) used and know your way around appropriate sources (such as Cataloger's desktop) to find the needed detail (P2.3.6,1.4#; P2.3.6,2#) Gain an understanding of what it takes to describe a manifestation and to determine the entries according to AACR2 / **RDA**, consulting the rules in all but the simplest cases, using both the MARC format and the Dublin Core to structure the bibliographic records. **5 Be able to exploit knowledge of catalog structure for searching,** especially the record format (such as MARC) and the cataloging rules (such as AACR2 or RDA) used. (P2.3.6,3) [especially searching in OCLC Connexion.] See Assignment 8.1 and 8.2 for additional objectives specific to each
Materials	See readings for Lectures 7.1-7.2, especially **Orientation to RDA and AACR2 with Rule excerpts** We did not talk about this in class; the readings should do it The guide starting on p. ~92. You need to use two systems: **1 OCLC Connexions** for finding, modifying, creating bibliographic records **2 Cataloger's Desktop** (account was emailed), for finding rules (AACR2 and RDA) and LCC classes and LCSH subject headings Use the search box upper left to find a specific page of AACR2 or other page Use your browser's Find command (Ctrl-F) to find a spot inside the page For finding details on MARC fields: www.loc.gov/marc/bibliographic/ Also see oclc.org/support/documentation/worldcat/cataloging/electronicresources/default.htm More information about the MARC format in general at lcweb.loc.gov/marc/marcdocz.html
Special note	**Do not spend too much time on getting every detail right; concentrate on the general idea.** **Over**

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Tasks	See Assignments 8.1 and 8.2
Deliverables	See Assignments 8.1 and 8.2
Time	2 + 4 hours

Note on limitations	The objective of this assignment is just to give you a first taste of descriptive cataloging. You need not be concerned with the intricacies of the MARC format. Emulating the Model Catalog records (especially for the Web page) is ok, even encouraged. Do not be obsessed with details; as long as you get the basic record correct and are aware that there are many detailed rules, you are ok even if you do not get all the details exactly right.
Descriptive cataloging is not hard	Do not over-think this; it is very simple, just follow the instructions and look at the examples. Abandon the preconceived but erroneous notion that cataloging must be hard. There are documents that are hard to catalog, but the assigned documents are not. Once you realize that much cataloging is easy, Assignment 8 becomes a breeze.

Note: Many bibliographic record formats and rule sets

MARC is not the only bibliographic record format; there is also, for example, the Dublin Core (discussed in Lecture 7.2b) and different formats for formatting citations in many journals. RDA is not the only set of rules; many journals have their own (often used in the social sciences: American Psychological Association (APA) style, and there is always Turabian. You prepare APA style records for works cited all the time for other courses, starting with UBLIS 505. This is a form of descriptive cataloging, just using a different set of rules. Bibliography managers, such as Endnote, can produce bibliographic records in many different formats.

gold **Assignment 8.1** ***Mar. 9***

Descriptive Cataloging Exercise (Battleson modified by DS)

Complete the exercise on your own. For seated class: Help will be available during class time; **bring your computer**. You can work alone or with a partner.

Learning objectives	Inherit from Assignment 8. **Auxiliary objectives** Learn to take a critical view of tools provided and to make suggestions to the producers of such tools. (A special case of P2.1.5) Graduates are equipped and motivated to serve as leaders and advance the field. (P4.6) Graduates understand the importance of personal qualities conducive to professional success. The program fosters the development of professionals with these qualities. (P5, here P5.9 Assertiveness and P5.16 Initiative)
Materials	The guide starting on p. ~82. You need to use two systems: **1 OCLC Connexions** for finding, modifying, creating bibliographic records **2 Cataloger's Desktop** (account was emailed), for finding rules (AACR2 and RDA) and LCC classes and LCSH subject headings Use the search box upper left to find a specific page of AACR2 or other page Use your browser's Find command (Ctrl-F) to find a spot inside the page For finding details on MARC fields: www.loc.gov/marc/bibliographic/
Tasks	As specified in the guide
Special task	Throughout, keep a log of observations where OCLC Connexion or Cataloger's Desktop are hard to use, not intuitive, etc. and suggestions for improvement. At the end compose a message to the OCLC system administrator and/or a message to the Library of Congress system administrator. Find the email address(es) for sending comments and suggestions and of a suitable discussion forum. Send your message(s) with the addressees to dsoergel@buffalo.edu or, even better, to the system administrator and/or post to the discussion forum (cc me). Novices are often best at finding problems.
Deliverables	The filled-in assignment template One or two email messages (see Special Task)
Time	2 hrs
	Guide begins on back of this page

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The Guide

There are three parts to this exercise.
Part 1: Use OCLC Connexion and MARC 21 to find MARC fields..
Part 2: Edit records in OCLC Connexion
Part3. Work with Cataloger's desktop to find the right cataloging rules and apply the rules

To begin, sign on to http://connexion.oclc.org/ Authorization: 100062747 Password: sils2
Under the top line tab *Cataloging* click on the tab *Search* (in the second line)

Note: In many instances I have printed out and included what the system puts out to save you time. If you retrace these steps to get the output yourself it will take longer.

Next, open the MARC21 Format: http://www.loc.gov/marc/bibliographic/ecbdhome.html
Here you will find a breakdown of each MARC field, indicators and subfields codes.
For example the author is: 1XX: Main Entry Fields > 100 - Main Entry - Personal Name - Concise > Subfield Codes: $a - Personal name; $d Dates associated with a name .

Part 1: Use OCLC Connexion and MARC 21 to find MARC fields.

This is just to help you familiarize yourselves with MARC records

Record your answers in the assignment template

MARC record A

A MARC record for the *manifestation* (for definition see p. ~98, Lecture Notes p. 252, and the FRBR reading) with the ISBN 1586830899 is on the facing page (searching by ISBN is simple, so we do not spend time on it).

Note: The top part contains "fixed fields" in which characteristics of the document are encoded with cryptic codes. For example, in the field Indx the code means that the book has an index. For now you can ignore the top part.

In this record identify and copy and paste the following to the assignment template:

Title
Subtitle
Statement of responsibility
Place of Publication

Note:
The records as retrieved from OCLC were cataloged according to AACR2
Variations or additions needed in RDA are shown in Arial font

n

MARC Record A

OCLC 52458933 **No holdings in SBS - 476 other holdings; 2 other IRs**											
Books		**Rec Stat** c		**Entered** 20030611		**Replaced** 20120218134019.7					
Type	a	**ELvl**		**Srce**		**Audn**		**Ctrl**		**Lang**	eng
BLvl	m	**Form**		**Conf**	0	**Biog**		**MRec**		**Ctry**	ohu
		Cont	b	**GPub**		**LitF**	0	**Indx**	1		
Desc	a	**Ills**	a	**Fest**	0	**DtSt**	s	**Dates**	2003 ,		

>010	2003013199
>040	DLC $b eng $c DLC $d UUC $d BAKER $d BTCTA $d YDXCP $d JP3 $d AU@ $d W2U $d VOV $d OCLCQ $d WAU
>020	1586830899 (pbk.)
>020	9781586830892 (pbk.)
>042	pcc
>050 00	PN6710 $b .G68 2003
>082 00	741.5/09 $2 21
>092	$b
>049	SBSM
>100 1	Gorman, Michele, $d 1976- , $e author [subfield $e is to specify the role of a contributor]
>245 10	Getting graphic! : $b using graphic novels to promote literacy with preteens and teens / $c Michele Gorman ; with a foreword by Jeff Smith.
>260	Worthington, Ohio : $b Linworth Pub., $c c2003.
>300	xii, 100 p. : $b ill. ; $c 28 cm. RDA: xii, 100 pages : $b illustrations ; $c 28 cm.
>336	text $b txt $2 rdacontent
>337	unmediated $b n $2 rdamedia
>338	volume $b nc $2 rdacarrier
>504	Includes bibliographical references (p. 91-92) and index.
>505 0	Comic books and graphic novels : past, present, and future -- The role of graphic novels in libraries -- Graphic novels in the school library media center and classroom -- Collection development and bibliographic control of a graphic novel collection -- Promotion and programming with graphic novels -- Graphic novels for libraries serving young people.
>520	"Offers guidance to librarians interested in developing graphic novel collections in library media centers, featuring an overview of the history of comic books and graphic novels, discussing their value in the media center and classroom, and including content summaries and lists of recommended titles."
>650 0	Graphic novels.
>650 0	Literacy.
>856 41	$3 Table of contents $u http://catdir.loc.gov/catdir/toc/ecip045/2003013199.html
>938	Baker & Taylor $b BKTY $c 36.95 $d 27.71 $I 1586830899 $n 0004260392 $s active
>938	Baker and Taylor $b BTCP $n 2003013199
>938	YBP Library Services $b YANK $n 2044812
>938	Baker & Taylor $b BKTY $c 50.55 $d .00 $I 141767508X $n 0006697034 $s active
>029 1	YDXCP $b 2044812
>029 1	NZ1 $b 7764883
>029 1	AU@ $b 000024722835
>029 1	HEBIS $b 135991552

MARC record B

Find the MARC record(s) for the *manifestation* (for definition see p. ~98, Lecture Notes p. 252, and the FRBR reading with the

ISSN (International Standard Serial Number) 1352-0237

Hint: Under **Keyword/Numeric Search** (always use this advanced search area)
In the box *Search for*, type the ISSN.
In the drop-down box (pick list) next to it, select *ISSN (in:)*
Then click on *Search* (the button in the Keyword/Numeric Search area, **not** the search button higher up on the screen.

There are many records from many libraries; they vary in what information they include. Look at some.

On the facing page is a printout of the MARC record numbered 17 (give or take a few) in the list.

Identify and copy and paste to the assignment template:

Title
General Material Designation:
Publisher:
Price

Note on price:

Look at www.loc.gov/marc/bibliographic, click down the tree to

Format Summary > 037 Source of Acquisition - Concise

The MARC record given below, continuing on the facing page includes 037; many other records do not

Marc Record B

OCLC 651884234		**No holdings in SBS - 6 other holdings**									
Continuing Resources		**Rec Stat** c		**Entered** 20100802		**Replaced** 20101005140541.3					
Type a	**ELvl** K	**Srce** d	**GPub**	**Ctrl**	**Lang** eng						
BLvl s	**Form** o	**Conf** 0	**Freq** b	**MRec**	**Ctry** nyu						
S/L 0	**Orig**	**EntW**	**Regl** r	**Alph** a							
Desc a	**SrTp** p	**Cont**	**DtSt** d	**Dates** 1994 , 2004							

>007	c $b r $d u $e n $h a $j a
>040	OCLCE $b eng $c OCLCE $d LGG $d OCLCQ
>016 7	9422783 $2 DNLM
>016 7	SR0080487 $2 DNLM
>019	252475183
>022	1352-0237 $l 1352-0237
>030	JGINEM
>037	$b Elsevier Science, 660 White Plains Road, Tarrytown, NY 10591-5153 $c $$320.00 (institutions)
>041 0	eng fre ger
>050 4	Z7164.G7 $b G69
>060 4	Z 7164.G7 $b G721
>070 1	Z7164.G7G6
>072 0	X200
>082 14	011 $2 12
>092	$b
>049	SBSM
>245 00	Journal of government information $h [electronic resource] : $b an international review of policy, issues and resources.
>260	Tarrytown, NY : $b Pergamon, $c c1994-c2004.
>310	Bimonthly
>336	text $b txt $2 rdacontent
>336	still image $b sti $2 rdacontent
>337	computer $b c $2 rdamedia
>338	online resource $b cz $2 rdacarrier
>362 0	Vol. 21, no. 1 (Jan./Feb. 1994)-v. 30, no. 5/6 (2004).
>515	None published 2003.
>538	Mode of access: World Wide Web.
>546	Text in English, French and German.
>588	Description based on print version record.
>650 0	Government publications $v Periodicals.
>650 12	Government Publications $v Periodicals.
>650 22	Information Services $v Periodicals.
>650 22	Public Policy $v Periodicals.
>650 17	Bestuurlijke informatieverzorging. $2 gtt
>650 17	Overheid. $2 gtt
>650 6	Publications officielles $v Péeriodiques.
>776 1	$c Original $w (DLC) 94649744 $w (OCoLC) 29785232
>780 00	$t Government publications review (New York, N.Y. : 1982)
>785 04	$t Government information quarterly
>856 40	$3 Google, v.21 no.4 1994 $u http://books.google.com/books?id=7YDiAAAAMAAJ
>856 40	$u http://mclink.library.mcgill.ca/sfx?url_ver=Z39.88-2004&ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/sfxit.com:opac_856&url_ctx_fmt=info:ofi/fmt:kev:mtx:ctx&sfx.ignore_date_threshold=1&rft.object_id=954925617090&svc_val_fmt=info:ofi/fmt:kev:mtx:sch_svc&

MARC record C (printed opposite, without the box at the top)

Find an OCLC record for a manifestation that contains the **acrobatic work** entitled
Journey of Man as a videorecording

Hint: As the field to be searched use *Title Whole Phrase (tiw=)*
Under Format select *Visual materials*

The record numbers in your search result display may be slightly different from those mentioned here. Check by the OCLC number (on top of the fixed field box) or by Date.

Display record 10, OCLC No 48714430, Date 2001 on the screen, but use the printed record opposite.

In the record, locate and copy and paste to the assignment template the following pieces of information

ISBN Note: the field is repeated, 10-digit ISBN and 13-digit ISBN
LC call numbers
Dewey class
Statement of responsibility
Place of publication
Publisher
Subject heading

Now display record 2, OCLC No. 253698944, Date 2005. Why was it found?
Hint: Look at MARC field 740 Added Entry-Uncontrolled Related/Analytical Title
Note: Even though the title of this manifestation is not *Journey of Man*, a user who wants to watch this performance would be perfectly happy.

Now display record 28, OCLC No. 219714629, Date 2007. Title in 245 is *Journey of Man*. Will it satisfy this user?

Similarly, record 14, OCLC No. 745331992, Date 2003.

Further note: To state the obvious

If you do not know how to search something in OCLC Connexion, use one or both ways to find out:

(1) **Use HELP OR**

(2) **Search for help in Google**. In many cases, Google is the best source for help.

MARC Record C (OCLC No. 48714430)

On facing page

>007	v $b d $d c $e v $f a $g I $h z $I q
>040	LVL $c LVL $d TEF $d RCS $d IBI $d OCLCQ $d IXA $d BTCTA $d OCLCQ
>019	47958989
>020	0767873890
>020	9780767873895
>024 1	043396070691
>028	40 07069 $b Columbia TriStar Home Entertainment
>037	$b Midwest Tapes $n http://www.midwesttapes.com
>043	n-cn---
>050 4	GV1805.C3 $b J67 2001
>082 04	791.43/72 $2 22
>092	$b
>049	SBSM
>245 00	Journey of man $h [videorecording] / $c Sony Pictures Classics presents Cirque du Soleil ; produced by Peter Wagg and André Picard ; written by Steve Roberts & Peter Wagg ; directed by Keith Melton.
>260	Culver City, CA : $b Columbia TriStar Home Entertainment, $c [2001], c1999. RDA: Culver City, California: $b Columbia TriStar Home Entertainment, $c 2001, c1999
>300	1 videodisc (39 min.) : $b sd., col. ; $c 4 3/4 in. RDA: 1 videodisc (39 minutes) : $b sound, color ; $c 4 3/4 in.
>336	two-dimensional moving image $b tdi $2 rdacontent
>337	video $b v $2 rdamedia
>338	videodisc $b vd $2 rdacarrier
>538	DVD, region 1, full screen presentation; Dolby surround sound.
>546	Closed captioned.
>511 1	Cirque du Soleil; narrated by Ian McKellen.
>508	Director of photography, Reed Smoot ; editor, Harry B. Miller, III ; music, Benoit Jutras ; production designer, John Zachary ; 3-D & visual effects supervisor, Peter Anderson.
>500	Originally produced as an IMAX film.
>521	MPAA rating: G.
>520	An odyssey following the stages of human development from birth to maturity, with each stage presented by a Cirque du Soleil act.
>500	Special features: scene selections; trailers, interactive menus.
>650 0	Human beings $x Development $v Drama.
>650 0	Circus $z Canada.
>655 0	Short films.
>655 0	Performance art.
>655 0	Video recordings for the hearing impaired.
>700 1	Wagg, Peter.
>700 1	Picard, André.
>700 1	Roberts, Steve, $d 1941-
>700 1	Melton, Keith.
>700 1	McKellen, Ian.
>700 1	Smoot, Reed.
>700 1	Miller, Harry B., $c III.
>700 1	Jutras, Benoit.
>700 1	Zachary, John.
>700 1	Anderson, Peter.
>710 2	Sony Pictures Classics (Firm)
>710 2	Cirque du Soleil.

Part 2: Editing records in OCLC Connexion

Remember FRBR (Functional Requirements for Bibliographic Records) terminology:

Work	Intellectual product (Goethe's Faust, Shakespeare's Hamlet)
Manifestation	The rendering of the work in a given typeface etc. (Hamlet published by Barron)
Item	An individual copy of a manifestation
Bibliographic record	A record with information about a work, manifestation, or item. Most bibliographic record give information about a manifestation.

In this part, you will do **copy cataloging** using **OCLC Connexion**.
Scenario: Your library has acquired an item of a given manifestation; having the item in hand you need to catalog the manifestation. Any given manifestation (identified by an ISBN) can have multiple records (each identified by an OCLC control number) contributed by different libraries or no record at all. You need to find an OCLC record that comes close.

Not required: If you want to get feedback on your cataloging, copy and past your edited record(s) into the assignment template.

Important: An ISBN identifies a manifestation
An OCLC control number identifies a bibliographic record

Steps to follow:

Step 1	Find the **record** in OCLC Connexion
Step 2	Using Connexion, edit online using the correct data given below. (The OCLC records are actually correct. I just made up some different data for purposes of this exercise.)
Step 3	Save the record to **your libraries** bibliographic database (**not** OCLC (in real life) For this exercise, you may copy the record from Connexion to a Word doc.

Manifestations to copy catalog:

1 VHS tape: *Cane toads: An unnatural history*

The library acquired an item of this manifestation.
You happen to know the OCLC number of a MARC record for this manifestation: 37100331.
Find that record (Hint: the field is OCLC (no:)
However, the video in hand is actually 46 minutes long, contains color footage, and was produced by Film Australia. The director is Mark Lewis.

Note: You can search for the following:

	"cane toads"	Title (ti:)
AND	Unnatural	Title (ti:)

Finds a lot of MARC records; many differ in publisher (same work, different manifestations), but there are some with the same publisher and year. Record 10 is the one we used.

Optional, hard

2 CD *No angel* artist Dido

The library acquired an item of this manifestation

From the item in hand you can tell that the manifestation was published in New Orleans in 2000 by Artists Against Drugs. It contains 2 CD's totaling 94 minutes, and all songs were co-written by Neil Armstrong. Track #3 contains the song, *Don't you dare ever think of me*, and Track #11 contains *My life will be sooo much better after I finish graduate school*. (Some of this information is deliberately made up and so will not match any bibliographic record you find.)

Find a suitable MARC record in OCLC from which a record for the above manifestation could be created most easily; the MARC record should give a lot of information.

You need to use what you learned earlier in this exercise, such as using the fields Title Whole Phrase (tiw=) and name (au:) and the material type CD audio.

Part 3. Work with Cataloger's desktop. Find and apply cataloging rules

General

Put your answers into the assignment template.

Note: While cataloging in OCLC Connexion you can use Cataloger's desktop (in a different browser window) to look up AACR2 or RDA rules, LC class numbers, LC subject headings, etc.

Hint: Often the right section of the rules can be found through a search in Cataloger's desktop.

Question 1: Sometimes the search finds a definition in the glossary. What do you do then? Any comments on the design on the site?

Question 2: Assume you wanted to compare a rule in AACR2 with the corresponding rule in RDA (or vice versa) (a task often faced by catalogers familiar with AACR2 who now have to use RDA). Any comments on the design on the site?

These exercises will be completed using the AACR2R2 rules. There are three sub-parts:

Subpart 3.1 Answer a series of questions using the AACR2R 2002 with 2005 revisions as available in Cataloger's Desktop or the printed version. Some of these questions can be answered just from knowledge gained from the AACR2 reading.

Subpart 3.2 Fill in the correct punctuation for the three catalog card records.

Subpart 3.3 Complete the descriptive aspects of a MARC record. Some parts have been completed for you. Using the rules in the AACR2, be sure to include proper capitalization, spelling, order, spacing, and punctuation, etc.

Subpart 3.1: Find rules in AACR2R

For each question, supply the answer **and the rule** (if applicable) in the AACR2.
Hint: You can traverse down the table of contents or you can search. Search is often quicker.

1. Which rule gives the list of general material designations (GMDs)?
2. Does AACR2 tell me about assigning subject headings?
3. What is the chief source of information for the title of a book?
4. Where do you find the rules for punctuating an ISBD area, such as the edition statement?
5. What kind of information might be recorded in the edition area of a book?

Subpart 3.2: Punctuation. (The real nitty-gritty of cataloging)

This subpart is **optional.** A good cataloging system should produce the punctuation for you.)

For each book, where there is a large space, supply the necessary **punctuation** using the RDA rules (unchanged from AACR2).
In the assignment template, please type your punctuation in bold type and in a different color type.
Extra spacing is included so that you can see where to add the punctuation.

Hint: Follow the general punctuation rules you found before. If necessary, find punctuation rules for specific areas of the description

(book 1)
Cat is sleepy Satoshi Kitamura 1st American ed. New York N.Y. Farrar Straus and Giroux c1996 1 v. (unpaged) col. ill. 17 cm.

(book 2)
Jungle animals written by Angela Royston photography by Philip Dowell additional photography by Dave King and Jerry Young illustrations by Martine Blaney and Dave Hopkins New York Aladdin Books 1991 21 p col ill 23 cm Eye openers

(book 3)
Soup, salad, sandwich cookbook by June Turner and Naomi Arbit Milwaukee Wis Ideals Pub Corp c1981 224 p ill (some col) 29cm
Includes index

Section 3.3: Creating descriptive cataloging records

For manifestations 1 and 2, in the assignment template, identify and complete the missing pieces in the MARC record. For manifestation 3 create a MARC record

Manifestation 1: Book

On verso of title page (reformatted for readability)

Library of Congress in Publication Data

Battles, Matthew.
Library : an unquiet history / by Matthew Battles. – 1st ed.
245 p. ; 21 cm.

Includes bibliographic references and index.
ISBN 0-393-02029-0
1 Libraries—History. 2. Libraries and Society—History. 3. Books—History. I. Title.

Z721.B28 2003
027'.009—dc21 2002156439

W.W. Norton & Company, Inc., 500 Fifth Avenue, New York, N.Y. 10110
©2003

MARC record

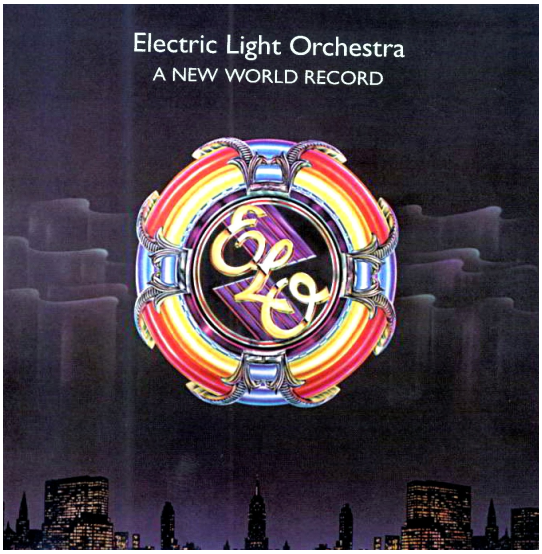
>020	$a
>050 14	$a Z721 $b .B28 2004
>082 04	$a 027/.009 $2 22
>100 1	$a Battles, Matthew, $e author.
>245 10	$a Library : $b an unquiet history / $ Matthew Battles.
>260	$a : $ W.W. Norton, $ c2003.
>300	$a 245 p. : $b ill. ; $c 22 cm. RDA: $a 245 pages : $b illustrations ; $c 22 cm.
>336	text $b txt $2 rdacontent
>337	computer $b c $2 rdamedia
>338	online resource $b cr $2 rdacarrier
>500	$a Includes bibliographical references and index.
>650 0	$a Libraries $x History.
>650 0	$a Libraries and society $x History.
>600 0	$a Books $x History.

OPAC display record

Title:	Library : an unquiet history / Matthew Battles.
Main Author:	Battles, Matthew, author.
Format:	Book
Language:	English
Published:	New York : W.W. Norton Publisher, 2003
Edition:	1st ed. RDA: first edition
Subjects:	Libraries > History.
	Libraries and society > History.
	Books > History.
Location Note:	Z271 .B28 2003

Manifestation 2: Music CD Back cover of CD container

Front cover of CD container:



Identify missing pieces in the MARC record and complete in the assignment template

>024 1	$a 00696998542228
>050 14	$a M1741.18.E44 $b N49 2006
>110 2	$a Electric Light Orchestra.
>245 1	$a A new world record $ [sound recording] / $c .
>260	$a : $b Sony/Legacy, $c p2006.
>300	$a 1 sound disc : $b digital ; $ 4 3/4 in.
>500	$a Compact disc.
>511 0	$a Electric Light Orchestra (Jeff Lynne, vocals, guitar ; Kelly Groucutt, vocals, bass ; Richard Tandy, guitar, piano, Clavinet, Moog synthesizer ; Mik Kaminsky, violin ; Hugh McDowall, Melvyn Gale, cello ; Bev Bevan, drums, percussion).
>500	$a Reissue of: Jet 35529 (1976); with bonus tracks.
>500 0	$a $t Tightrope -- $t Telephone line -- $t Mission (A world record) -- $t So fine -- $t Livin' thing -- $t Above the clouds -- $t Do ya -- $t Shangri-la -- $t Bonus tracks (previously unreleased). Telephone line ; Surrender ; Tightrope ; Above the clouds ; So fine ; Telephone line (instrumental).
>650 0	$a Popular music $y 1971-1980.
>650 0	$a Rock music $y 1971-1980.

Note: If the first subfield is $a, many records omit the $a

Manifestation 3: UBLIS 571 Soergel Textbook

Create a MARC record at the First Level of bibliographic description (at least 5 fields) for the textbook in UBLIS 571 Soergel.

Organizing Information by Dagobert Soergel.

Include the tags, indicators, subfields and delimiters.
Be sure to enter the data elements in each field correctly.

Catalog this in OCLC Connexion starting with a blank record,
the copy and paste into the assignment template

gold **Assignment 8.2** ***Assigned: Mar. 9***

Lecture 7.1b -7.2b ***Due: Mar. 30+***

Descriptive Cataloging Practice

Learning objectives	Inherited from Assignment 8.
Materials	**Inherited from Assignment 8**. **Material on manifestations to be cataloged** Title page, verso (back of title page), and other needed pages from three items to be cataloged and from four items to be examined for cataloging problem (following this page): 1 Lewis, Differentiating the teaching staff 2 Silberman, The open classroom reader 3 MathMagic (Web site) A1 Women's organizations and leaders directory A2 Social science data file directory A3 Inventory of information resources in the social sciences A4 Anglo-American cataloging rules. 2. ed. 1988 rev **Two sample records,** simplified as required in this assignment (on the back). For MARC fields and more sample records see the **Model Catalog**; Record 26 illustrates the cataloging of a website
Task 1 MARC records	**Prepare MARC records for items 1 - 3, using** AACR2 **/ RDA rules** Use the second level of description (as defined in AACR2) unless indicated otherwise. **Use only MARC fields 100 - 599, 700-759 (added author/title entries), and 800-840 (series added entries), as they apply** to the document being cataloged. Optional: use subfield indicators $a, $b, or #a, #b etc. to divide the information in a MARC field. **For item 3 prepare also a Dublin Core record** using the template at http://www.dublincoregenerator.com/generator_nq.html Simply copy and paste from your MARC record into the appropriate slots.
Task 2	**Examine documents A1- A4 for descriptive cataloging problems**. No deliverable
Deliverables	Three MARC records (just like the sample records on the back), one Dublin Core record. **You can work on this assignment in teams but you must submit the deliverables individually.**
Time	4 hours

over

Sample MARC records (RDA) (you can omit subfield indicators)

100 Conant, James Bryant, #d 1893-1978 #e author.
245 The comprehensive high school; #b a second report to interested citizens #c by James B. Conant.
250 First edition
260 New York : #b McGraw-Hill Book Company, #c 1967
300 95 pages ; #c 21 cm.
336 text #2 rdacontent
337 unmediated #2 rdamedia
338 volume #2 rdacarrier

100 Richards, James McDowell, #d 1931- #e author.
245 Assessing student performance in college / #c by James M. Richards, Jr.
260 Washington: #b ERIC Clearinghouse on Higher Education, George Washington University, #c 1970
300 12 pages ; #c 28 cm.
336 text #2 rdacontent
337 unmediated #2 rdamedia
338 volume #2 rdacarrier
410 ERIC Clearinghouse on Higher Education #t Report; #f 1970, volume number 2
505 Includes bibliographical references: pages 10-12.
710 ERIC Clearinghouse on Higher Education

BY THE SAME AUTHOR

Administering the Individualized Instruction Program

A Contemporary Approach to Nongraded Education

James Lewis, Jr.

Differentiating the Teaching Staff

Parker Publishing Company, Inc. *West Nyack, N.Y.*

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WEST NYACK, N.Y.

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LIBRARY OF CONGRESS
CATALOG CARD NUMBER: 77-157920

244 pages, bibliography, index

PRINTED IN THE UNITED STATES OF AMERICA
ISBN-0-13-211904-8
B&P

To my deceased brother
Joseph

THE OPEN CLASSROOM READER

Edited by

Charles E. Silberman

RANDOM HOUSE

New York

EDUCATION

This companion volume to Charles E. Silberman's best-selling *Crisis in the Classroom* has been designed for teachers, students, administrators, parents, school board members—in a word, for anyone who is dissatisfied with the status quo in the elementary school and who wants to explore the alternative approaches that go under the rubric of informal education, open education, and the open classroom. Containing sixty-five selections from American, English, and Canadian sources, many of them previously inaccessible to a wide audience, plus a general introduction by Mr. Silberman and his running commentary explaining why each selection has been made and how it fits into the overall framework, this book is the most complete reader available on the open classroom.

Each section of the book presents practical explanations and detailed descriptions of classroom activities and methods, interspersed with theoretical discussions. Mr. Silberman insists that method is important because theory alone can leave a teacher helpless when face to face with twenty or thirty children—but he insists also that method alone will leave the teacher a mere technician with a sterile bag of tricks. He views open education less as a model or set of techniques than as an approach to teaching and learning—a set of shared attitudes and assumptions about the nature of childhood and adolescence and about the aims and processes of education.

Copyright © 1973 by Charles E. Silberman

All rights reserved under International and Pan-American Copyright Conventions. Published in the United States by Random House, Inc., New York, and simultaneously in Canada by Random House of Canada Limited, Toronto.

Library of Congress Cataloging in Publication Data

Silberman, Charles E 1925– comp.
The open classroom reader.

1. Open plan schools. I. Title.
LB1029.06S49 1973 372.1'3 72–11430
ISBN 0–394–48221–2

Manufactured in the United States of America

First Edition

789 pages, preface xxiii pages

For Ellen
My First Daughter

Welcome to MathMagic's MrH HomePage

Read about MathMagic

Click Alan for a picture of MrH.

For the really curious, here is a family collage

Alan Hodson is a math teacher at Bowie High School

El Paso Independent School District

at El Paso , TEXAS.

You can send snail mail to him at:

MathMagic Foundation
P.O. Box 27205
El Paso, TX 79926-7205

If you rather use Fax, 915/532-1918 will reach him, as will any e-mail addressed to:

A

- alanh@cs.utep.edu
- alanh@forum.swarthmore.edu
- ahodson@tenet.edu

If you would like to send some feedback click here

A

Thanks for visiting this page

MathMagic Internet

What is MathMagic?

MathMagic is a K-12 telecommunications project developed in El Paso, Texas. It provides strong motivation for students to use computer technology while increasing problem-solving strategies and communications skills. MathMagic posts challenges in each of four categories (k-3, 4-6, 7-9 and 10-12) to trigger each registered team to pair up with another team and engage in a problem-solving dialog. When an agreement has been reached, one solution is posted for every pair.

MathMagic has received wide ideological acceptance by hundreds of past FidoNet users, because it addresses most of the National Council of Teachers of Mathematics standards. A modified format has now expanded into the Internet and is available via regular e-mail or via the World Wide Web (WWW).

Who can participate?

K-12 teachers and students, but higher education teachers, librarians, technology coordinators, computer teachers, and even home-schoolers are joining to act as facilitators.

What is needed?

Any teacher with access to electronic mail via the Internet can participate. Several net service providers and most of the commercial boards (America Online, Genie, Compuserve, Delphi, The Well, etc.) now offer e-mail gateways and other Internet services. MathMagic is best suited to schools that use computers with modems and have direct Internet access.

In some areas, a local Bulletin Board System (BBS) or a Net user (such as a parent with net access) may have to act as a go-between. Please ask about special arrangements.

Return to Mathmagic Main Page
Move on to How do I Participate?

July 7,1996

MathMagic Internet

Who can answer more questions?

Alan Hodson, middle school math teacher with the El Paso ISD is in charge of the Internet component of the project. Write to him at:

```
alanh@laguna.epcc.edu or
ahodson@tenet.edu.
```

For trouble-shooting try either Net Team Coordinator/volunteer :

```
Marcie Zisow at mzisow1@gl.umbc.edu

or Leslie Miller Chislett at lchislett@mail.rh.monroe.edu
```

What other informational files are available?

One of the distinctive features of MathMagic is that the whole project is available to people who have only e-mail capabilities. Any of the files/directories accessed via ftp/gopher can also be found via e-mail.

To receive more information on MathMagic and the files available, send E-MAIL (no "Subject:" needed) to:

```
mail-server@forum.swarthmore.edu
send INDEX
```

Once the automated mailer responds, you can request any of the files by replacing the INDEX of the command above with an exact filename from the list generated by INDEX (see below for a list of files that can be requested).

FTP: (File Transfer Protocol - ask your System Manager for specs)

Lynx or browser users: ftp://forum.swarthmore.edu/mathmagic

All other users can also ftp the MathMagic information files thus:

```
ftp forum.swarthmore.edu
'FORUM.S...EDU>' login
'Foreign Username:' anonymous
'Password:' (your e-mail 'name'@) example: alanh@
'Welcome to the Geometry Forum...'
 (whole page deleted)
'FORUM.S...EDU>' cd mathmagic
'FORUM.S...EDU>' dir (lists all directories)
'FORUM.S...EDU>' cd general.information
 (or any other directory)
```

Remember, to retrieve or "download" information to your system you must type 'get filename' (exact spelling). To move up one directory, at the > prompt type 'cd ..'; to log off type 'exit'. (Don't type the ' 'marks.)

GOPHER access is also available:(ask your system manager for your specs)

```
gopher forum.swarthmore.edu
(choose) 2. Forum's Archive/
(choose) 7. Monthly Digests/
(choose) 21. mathmagic.4-6/archive.February.95
```

```
(or any directory/file in that area)
```

At the end of each read text (or when you press spacebar) the footer will prompt to mail it. The user must enter his/her email address. To move up a directory type 'u' and to end the gopher exchange type 'q' and confirm quit.

Some of the files that can be requested are:

```
INDEX
after-registration
getting-information
mathmagic-carriers
mathmagic-faq (THIS FILE)
network-providers
problem-submissions
registration-form
sponsors-guide
```

Are previous posts/challenges available?

If you are interested in looking at some of the earlier postings, after gophering in as indicated above choose:

```
2. Forum's Archive
     7. Monthly Digests
     (From here you can choose the /mm-list and /month):
      example: 22.mathmagic.7.9/archive.Jul.94
```

The e-mail equivalent to procure previous posts is to send e-mail (without subject) to:

```
mail-server@forum.swarthmore.edu
```

with the command:

```
send monthly.digests/mathmagic.k-3/archive.January.94
                     ----(1)----           ----(2)--
```

You can replace -(1)- with any of the other lists (mathmagic.4-6; mathmagic.7-9; mathmagic.10-12 or mathmagic-general) and/or replace -(2)- with any other month February.94; March.94, etc. PLEASE notice the dots between the words.

Return to Mathmagic Main Page
Continue to Adult Involvement

July 30, 1995

Item (3)

NATIONAL PROFESSIONAL DIRECTORY SERIES

WOMEN'S ORGANIZATIONS & LEADERS DIRECTORY

1975 — 1976

FIRST INTERNATIONAL EDITION

Myra E. Barrer
Editor

today
WASHINGTON, D.C.

TODAY PUBLICATIONS & NEWS SERVICE, INC. • NATIONAL PRESS BUILDING • WASHINGTON, DC 20045

(Lib Sch Ref HQ 1105.W6 1975/76

ABSTRACT

WOMEN'S ORGANIZATIONS & LEADERS DIRECTORY – 1975-1976 EDITION is a current and comprehensive international directory and register of living women and organizations concerned about the provision of equal rights and equal opportunities for women (the Women's Movement). It is the source and guide to the names of more than 17,000 organizations, their leaders and individuals involved in the Women's Movement. The Directory includes in alphabetical order each organization with its national, regional, state, local and committee components (if any) with its leaders, addresses, telephone numbers, periodicals published, meetings along with a description of the activities and goals of the organization generally as stated by the organization. Each entry contains index terms indicating major areas of action and concern. The Directory has five indexes: an ALPHABETICAL INDEX of all individuals and organizations; a GEOGRAPHICAL INDEX of all individuals and organizations in alphabetical order within each state in the United States or by foreign country; two PERIODICAL INDEXES of all periodicals published by each organization listed in alphabetical order by title of the periodical with the publishing organization and another listing of publishing organizations in alphabetical order with the titles of their periodicals; and a SUBJECT INDEX with more than 800 subject headings of all organizations and individuals by their areas of action and concern.

INDEX TERMS OR SUBJECT HEADINGS

Directory, 1975-1976 – Women's Organizations & Leaders
Equal opportunity, women
Equal rights, women
Feminists
Organizations, feminist
Organizations, women's
Periodicals, feminist
Publications, periodicals – feminist
Register, living women
Register, women's movement
Women
Women's movement
Women's organizations

Lib Sch
Ref
HQ
1105
.W6
1975/76

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Item (1)

THE UNIVERSITY OF TEXAS AT AUSTIN

THE GENERAL LIBRARIES

Social Science Data File Directory

compiled by

Richard W. Blood

November 1975

337 p.

(Lib Sch Ref H91.B5 Folio)

PREFACE

Utilization of large machine-readable data files in the General Libraries began in 1972 with the MARC and SPIN data files. As additional bibliographic data bases were acquired and made available to the University Community, the lack of bibliographic accessibility to other data files on campus became more apparent. Concern in the library and in the faculty resulted in a proposal to expand library services by providing a social science data library service similar to those available at other universities such as North Carolina, Stanford, Wisconsin and Yale. To facilitate social science research by improving bibliographic access to machine-readable non-bibliographic data files was to be a principal objective of this service.

The General Libraries requested permanent funding for a Social Science Data Library in its 1975/76 budget. Pending University funding, Dean James W. McKie of the College of Social and Behavioral Sciences, made some funds available to the General Libraries. This funding, supplemented by library funds, enabled the library to hire Dr. Richard W. Blood to begin work on an inventory of existing major machine-readable data sources available at The University of Texas at Austin. Results of this inventory are published in this directory.

Although The University did not provide the General Libraries with funds to continue the project, the library hopes to issue supplements to this directory and explore other means to serve as a

Opposite title page

Inventaire des Sources d'Information dans les Sciences Sociales

Préparé par l'Université de Bath
pour l'Organisation de Cooperation
et de Développement Économiques

Édité par
J. M. BRITTAIN
et
S. A. ROBERTS

Title page

Inventory of Information Resources in the Social Sciences

Item (3)

Prepared by the University of Bath
for the Organisation for Economic
Co-operation and Development

Edited by
J. M. BRITTAIN
and
S. A. ROBERTS

XXVIII introductory pages
239 p.
Appendix A - C; General index, subject index
country index

SAXON HOUSE | LEXINGTON BOOKS
(Lib Sch [illegible] H61.U575. 1975

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Lexington, Mass. USA.

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1975

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A member of the Staples Printing Group

Contents/T

Background/Historique
Introduction/Introductio
Abbreviations/Abréviatio

INFORMATION SERVI

Anthropology/Anthropol
France

Criminology/Criminologi
Belgium/Belgique
France
International
Italy/Italie
Netherlands/Pays-Bas
United Kingdom/Royaun

Demography/Démograph
Canada
United Kingdom/Royaun

Economics/Économie
Belgium/Belgique
Canada
Finland/Finlande
France
Germany (Federal Repub
International
Italy/Italie
Japan/Japon
Netherlands/Pays-Bas
United Kingdom/Royaun

Education
Belgium/Belgique
Canada

ANGLO-AMERICAN CATALOGUING RULES

Second Edition
1988 Revision

Prepared under the direction of

THE JOINT STEERING COMMITTEE FOR REVISION OF AACR
a committee of:
The American Library Association
The Australian Committee on Cataloguing
The British Library
The Canadian Committee on Cataloguing
The Library Association
The Library of Congress

Edited by

MICHAEL GORMAN
and
PAUL W. WINKLER

CANADIAN LIBRARY ASSOCIATION / *Ottawa*
LIBRARY ASSOCIATION PUBLISHING LIMITED / *London*
AMERICAN LIBRARY ASSOCIATION / *Chicago*

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AMERICAN LIBRARY ASSOCIATION
50 East Huron Street, Chicago, Illinois 60611
ISBN 0-8389-3346-7 (casebound)
ISBN 0-8389-3360-2 (paperbound)
ISBN 0-8389-3361-0 (looseleaf with binder)

CANADIAN LIBRARY ASSOCIATION
200 Elgin Street, Ottawa, Ontario K2P 1L5
ISBN 0-88802-242-5 (casebound)
ISBN 0-88802-241-7 (paperbound)
ISBN 0-88802-243-3 (looseleaf with binder)

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7 Ridgmount Street, London WC1E 7AE
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1. Documents. Author cataloguing & descriptive cataloguing
I. Gorman, Michael, *1941–* II. Winkler, Paul W. (Paul Walter) III. Joint Steering Committee for Revision of AACR IV. American Library Association V. Library Association
025.3'2

Library of Congress Cataloging in Publication Data

Anglo-American cataloguing rules / prepared under the direction of the Joint Steering Committee for Revision of AACR, a committee of the American Library Association, the Australian Committee on Cataloguing, the British Library, the Canadian Committee on Cataloguing, the Library Association, the Library of Congress ; edited by Michael Gorman and Paul Winkler. — 2nd ed., 1988 revision.
p. cm.
Originally published (1967) in two versions under the following titles: Anglo-American cataloging rules. North American text; Anglo-American cataloging rules British text.
Includes bibliographical references and index.
1. Descriptive cataloging—Rules. I. Gorman, Michael, 1941–
II. Winkler, Paul W. (Paul Walter) III. Joint Steering Committee for Revision of AACR. IV. American Library Association.
Z694.15.A56A53 1988
025.3'2--dc19 88-19349

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Assignment 9 ***Assigned: Mar. 9***
Lecture 7.2a ***Due: Mar. 30+***

Problems of access points (RDA term) / **entries** (AACR2 term)

In the Lecture Notes and the Assignments, *access point* and *entry* are used interchangeably.

Learning objectives	1 Understand the complexities in determining the useful access points (entries) for a document (P2.3.6.1.3#) 2 Be sufficiently familiarity with AACR2 /**RDA** rules for access points to find the rule that applies to a given situation. (P2.3.6,1.4#)
Materials / reading	For this assignment you can use RDA or Part 2 of AACR2, Chapter 21 - 26 (not in your package). Most of you will use these sources online through cataloger's desktop, for which you should have established an account. Browse the outline for the rules for entry, get a general idea, so you know where to look for the specific rule(s) that apply to the case at hand.
Tasks (If you have trouble, contact the TA)	For the starred items in the attached *Sample documents for analyzing author entry according to Lubetzky* (copied from Lecture 7.1a) indicate • The Lubetzky condition that applies to this case (see reading and the overview in the notes for Lecture 7.2A) • The AACR2 / RDA rule that applies (see reading) • The correct author entry formatted according to AACR2 /RDA (no other entries are required; for example, do not do title or subject entries)
Deliverables	The filled-in assignment template.
Time	1.5 hours

Note on the concept of access point (entry)	(As defined in AACR2 reading) An author entry is simply the name of a person or corporate body under which the document should be found in a catalog. For actual cataloging in the US, and for this assignment, the name should be given in the form prescribed by AACR2 / RDA. In a MARC record, these names go into fields 100 or 110 (if the main entry) or in fields 700 or 710 if an added entry (any entry other than the main entry). So for the Assignment 9 deliverable you need to give for each of the documents marked with * the personal or corporate name(s) which should be used as access points (you need not be concerned with specifying which is the main entry). You do need to give for each entry the Lubetzky condition that applies and the applicable AACR2 / RDA rule(s) that you used (A) in the decision to make an entry for this person or organization and (B) in determining the form of the name to be used in the catalog record.

Sample documents for

- **analyzing author entry according to Lubetzky** and
- **determining author entry according to** AACR2 **/ RDA**

(selected from the longer list used in Lecture 7.2A)

Use a separate line for each entry

(b)* ***Studies in the social psychology of adolescence*, by J. E. Richardson, J. F. Forrester, J. K. Shukla, and P. J. Higginbotham; edited with a foreword by C. M. Fleming**.

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

(e)* ***Chisholm's handbook of commercial geography*, entirely rewritten by L. Dudley Stamp and S. Carter Gilmour.**

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

(f)* ***Making magical apparatus*, by Jane Reid (i.e. Mrs. David Johnstone).**

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

over

(m)* ***Schubert: thematic catalogue of all his works in chronological order*, by Otto Erich Deutsch in collaboration with Donald R. Wakeling.**

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

(n)* ***A concordance to the poems of William Wordsworth*, by Lane Cooper.**

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

(o)* ***The poetical works of Wordsworth*, edited by E. de Selincourt.**

Lubetzky condition: RDA rule:

Main Entry:

Added Entry (if applicable):

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Assigned in Week 7 for Lecture 8.1 ***Due: Mar. 23***

Free indexing of three documents and preparation for Lecture 8.1a

Learning objectives	1 To get a sense of how free indexing works in preparation for Lecture 8.1: understand problems of free-text searching and are able to formulate free-text (such as Google) queries enhanced through synonym and hierarchic expansion. (P2.3.8.2#; P2.5.2,1.3.3) 2 To prepare for seeing the contrast to request-oriented indexing as done in Assignment 11: Understand the use of classification for request-oriented indexing and inclusive searching. (P2.3.9,2.3#)
Materials	A page with three document abstracts (the back of this page)
Tasks	1 **Free indexing**. Index the three documents given on the page **Document abstracts**, using whatever terms you can think of as good access points for finding this document. 3 -10 terms per document. 2 **Look over the tasks for Lecture 8.1a** and the accompanying materials in the notes for Lecture 8.1a You need to complete both tasks before Lecture 8.1a
Deliverables	The sheet **Document abstracts for free indexing** filled in.
Time	2 hours

Document abstracts on the back of this page.

Document 1

N69-17257 *# National Aeronautics and Space Administration. Langley Research Center. Langley Station, VA
Supersonic transport operating practices during simulated operations in future air traffic control systems environments
Milton D. McLaughlin and Richard H. Sawyer Washington Feb. 1969 65 p refs
(NASA-TN-D-5018) Avail: CFSTI CSCL 01B

Operating practices of the supersonic transport (SST) during simulated operations in air traffic control (ATC) system environments conceived for the time period of introduction of the SST into service are presented. An SST flight simulator and the Federal Aviation Administration ATC simulation facilities were used to create the real-time simulations. The SST flight simulator was operated by airline crews and the ATC simulation facilities by experienced air traffic controllers. The test program included departure and arrival operations under instrument flight rule conditions in the New York and Los Angeles terminal areas with two design study configurations of the SST. The design study configurations were representative of variable-sweep and fixed-wing design. Both designs had a variable-incidence forebody.

Free index terms

Document 2

A Plan for a New Consolidated Passenger Ship Terminal in the Port of New York.
Distributed free by Port of New York Authority, 111 Eighth Avenue, New York, NY 10011. 1967. pp. iv+102.

Passenger ship activity in New York, existing passenger ship piers, design criteria, alternate solutions, proposed custom examination system, proposed terminal layout.

Free index terms

Document 3

A system for bus rapid transit on urban freeways.
Traffic Quarterly Oct. 1969

Describes the design of a system of buses sharing the general freeway lanes with regular traffic but having separate entrance and exit ramps. A sophisticated traffic control system would give preference to buses to guarantee predictable travel times. Compares cost and effectiveness (as measured by passengers carried in peak travel times) with other rapid transit systems.

Free index terms

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Assignment 11 ***Assigned:*** ***Mar. 23***
Lecture 8.2b, Textbook Chapter 13 ***Due:*** ***Mar. 30***

Request-oriented indexing

Learning objectives	1 Understand the use of classification for request-oriented indexing and inclusive searching. (P2.3.9,2.3#) Also: Gain experience with the checklist technique of indexing. 2 Practice building precombined descriptors with a faceted classification. (Part of P2.3.9,3.2#)
Materials	**Index language / classification for request-oriented indexing**, a faceted classification for *Transportation***.** p. ~133 - 135 Have a look at it so that the explanation of the tasks makes more sense. **Detailed explanation of Task 1 and Task 2** with examples p. ~136 - 137 **Document indexing forms for Assignment 11** for three documents, the same documents you indexed with free terms in Assignment 10 p.~ 139 - 143
Tasks	1 **Checklist indexing**. Index three documents with the attached index language, consciously applying the checklist technique of indexing. Optional 2 **Building precombined descriptor for arrangement**. After you have assigned the applicable elemental descriptors, make a precombined descriptor for the document.
Deliverables	Three filled-in **document indexing forms**
Time	2 hours

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Index language / classification for request-oriented indexing

This is a faceted classification of transportation to be used for Assignment 11.

For indexing use the **Indexer's classification display** included here.

For the in-class searching exercise building on this assignment you will use the **File builder's and searcher's classification display** included in the Lecture Notes for Lecture 9.2.

Outline: Facets

B	**Mode of transportation**
E	**Transportation system components**
F	Power supply for vehicles
G	Type of propulsion
H	Materials to build facilities or vehicles
J	**Passenger transport vs. freight transport**
K	Traffic operations
L	Transportation providers
M	Creation of traffic systems and components
N	Organization, administration
Q	General and other concepts
R	Geographic range
S	Geographic location

The three facets used for arrangement (optional Task 2) are shown in **bold**.

A Transportation and traffic

B Mode of transportation

B1 . Ground transport
B1.1 . . Road transport
B1.2 . . Rail transport
B1.2.1 . . . Local rail transit BT R1
B1.2.2 . . . Intercity railroads BT R2
B1.3 . . Pipeline transport
B1.4 . . Pedestrian mode
B1.5 . . Multi-modal ground transport

B2 . Water transport
B2.1 . . Inland water transport
B2.2 . . Ocean Transport

B3 . Air transport
B3.1 . . Supersonic air transport

B4 . Air cushion transport

B5 . Multi-modal transport
B8 . Other specific modes of transportation
B9 . Mode of transportation not applicable

D, E Free for expansion

E Transportation system components

E1 . Traffic facilities
E1.1 . . Traffic routes
E1.2 . . Traffic stations
E1.3 . . Stationary equipment

E2 . Methods to move persons or freight
E2.1 . . Vehicles

E3 . . Containers
E4 . . Self-transport

E8 . Other concepts
E9 . Transp. system elements not applicable

F Power supply for vehicles

F1 . Hydrocarbons
F1.1 . . Gasoline
F1.2 . . Diesel fuel
F1.3 . . Hydrocarbons from renewable sources

F5 . Electric power
F6 . Nuclear power
F7 . Animate power
F8 . Other power supply
F9 . Power supply not applicable

G Type of propulsion

G1 . Engine
G1.1 . . Combustion engine
G1.2 . . Steam engine

G2 . Turbines
G3 . Walking
G8 . Other type of propulsion
G9 . Type of propulsion not applicable

H Materials to build facilities or vehicles

H1 . Materials by composition
H1.1 . . Soils, aggregates
H1.2 . . Bitumen
H1.3 . . Cement, Concrete
H1.4 . . Ceramics, glasses

H1.5 . . Wood, paper
H1.6 . . Fibers, textiles

H1.7 . . Plastics
H1.8 . . Rubbers

H19 . . Metal

H2 . Materials by origin
H2.1 . . Petroleum products

H3 . Materials by use
H3.1 . . Marking or coating materials
H3.2 . . Adhesives, seals

H8 . Other specific materials
H9 . Material not applicable

J Passenger vs. freight transport

J1 . Passenger transport

J2 . Freight transport
J2.1 . . Transport of material of heavy weight
J2.2 . . Transport of bulk material

J9 . Passenger vs. freight transp. not applicable

K Traffic operations

K1 . Traffic communication, control, safety
K1.1 . . Traffic communications
K1.2 . . Traffic control
K1.3 . . Traffic safety

K2 . Routes and schedules
K2.1 . . Routes, route systems, traffic networks
K2.2 . . Schedules

K3 . Handling, loading, unloading

K8 . Other specific traffic operations
K9 . Traffic operations not applicable

L Transportation providers

L1 . Organizations, companies
L2 . Personnel, operators

L9 . Transportation providers not applicable

M Creation of traffic systems and components

M1 . Research, design, and evaluation
M1.1 . . Research and development
M1.2 . . Planning
M1.3 . . Design
M1.4 . . Testing, demonstration, evaluation
M2 . Manufacturing, construction
M3 . Acquisition
M4 . Training
M5 . Maintenance

M8 . Other specific activities in system creation
M9 . System creation not applicable

N Organization, administration

N1 . Administration, management
N2 . Costs, financing
N3 . Marketing
N4 . Legal aspects

N8 . Other specific topics in organization
N9 . Organization, administration not applicable

Q General and other concepts

Q1 . Traffic flow
Q2 . Simulation

Q3 . System characteristic
Q3.1 . . Noise, vibration
Q3.2 . . Pollution
Q3.3 . . Quality, performance
Q3.4 . . Durability, life, reliability
Q3.5 . . Demand, use
Q3.6 . . Human characteristics
Q3.7 . . Community characteristics
Q3.9 . . Other system characteristics

Q4 . Small vs large capacity
Q4.1 . . Small capacity
Q4.2 . . Large capacity

Q5 . Civilian vs military
Q5.1 . . Civilian
Q5.2 . . Military

Q8 . Other general concepts
Q9 . None of these concepts applicable

R Geographic range

R1 . Local systems NT B1.2.1
R1.1 . . Urban systems
R1.2 . . Rural systems

R2 . Beyond local systems NT B1.2.2
R2.1 . . Interurban systems
R2.2 . . State-wide systems
R2.3 . . National systems
R2.4 . . International systems

R8 . Other specific range
R9 . Geographic range not applicable

S Geographic location

S1 . North and Central America
S1.1 . . Canada
S1.2 . . U.S.
S1.3 . . Central America
S2 . South America
S3 . Europe
S4 . Asia
S5 . Australia
S6 . Africa

S8 . Other geographic locations
S9 . Geographic location not applicable

Detailed explanations and instructions for Tasks 1 and 2

Have a look at the sample document indexing form given below and examine the faceted classification (index language) given above so you have concrete examples in mind as you read the explanations. Do the tasks for each of the three documents

Task/step 1. Index the document with elemental descriptors from the faceted classification

The elemental descriptors are found in the faceted classification *schedule* above. Use the indexing forms provided. In the space for each facet, enter the applicable descriptor(s) from that facet. When a facet does not apply to a document, you must circle *Not applicable*; you cannot skip over a facet without making an explicit decision.

Use the most specific descriptors that cover the subject. Use B2.1 *Inland water transport* if the document addresses just *inland water transport* (transport on rivers and lakes); use B2 *Water transport* only if the document addresses all kinds of *water transport* (inland and ocean). Hierarchically expanded searching (searching with hierarchic expansion as practiced in the Medline exercise) will make the specific documents accessible through the broader term, so there is no need to index with the broader term. There may be more than one descriptor from any given facet.

Optional. **Task/step 2**. **Build one precombined descriptor**

Elemental descriptors support computer searching using Boolean query formulation, but they do not support meaningful arrangement of documents as in a display of a large number of search results, in a Web subject directory, or on library shelves. For meaningful arrangement we need to build precombined descriptors.

Thus when a faceted classification is to be used for arrangement, we need an additional step, building precombined descriptors. The notation (descriptor number) for a precombined descriptor can be formed by gluing the notations for the elemental components together. In the example, only three facets are used: B, E, and J, and they are combined in that order. In real life, selection and combination order of facets are determined in accordance with user requirements. See the Supplement for more explanation and an arrangement example. XXS

Even without consulting the Supplement, you can arrange the precombined descriptors for Documents 1 - 3 to form a mini subject directory.

Indexing. Document 0 (sample document)

Amsterdam's new container dock, K.W.Flitcroft for the Amsterdam Harbor Committee. Dock & Harbor Authority v 49 n 571 May 1968 p 28-30.

Dock described is protected by locks from rise and fall of tides; spreader is employed in lifting of containers and is adaptable in spread to handle both long and short types; containers can be stored on quay and special connections for powering of plants of refrigerated containers are set in concrete paving every 10 ft.; set of rail tracks runs along quay between high legs of container cranes to bring rail-hauled containers directly for lifting off.

Facet	Write in applicable descriptors Or check ⇨	Not applicable
B Mode of transportation	B2.2 Ocean transport	☐
E Transp. system elements	E1.2 Traffic stations, E3 Containers	☐
F Power		☒
G Propulsion		☒
H Materials to build		☒
J Passenger vs. freight	J2 Freight transport	☐
K Operations	K3 Handling, loading, unloading	☐
L Provider		☒
M Creation		☒
N Administration		☒
Q General and others		☒
R Geographical range	R2.4 International system	☐
S Geographical location	S3 Europe	☐

Optional. Task/step 2: Build a precombined descriptor for arranging documents

B2.2E1.2J2 Document 0 (the descriptors from facets B, E, and J)

Document 1. **Supersonic transport operating practices during simulated operations in future air traffic control systems environments**

Operating practices of the supersonic transport (SST) during simulated operations in air traffic control (ATC) system environments conceived for the time period of introduction of the SST into service are presented. An SST flight simulator and the Federal Aviation Administration ATC simulation facilities were used to create the real-time simulations. The SST flight simulator was operated by airline crews and the ATC simulation facilities by experienced air traffic controllers. The test program included departure and arrival operations under instrument flight rule conditions in the New York and Los Angeles terminal areas with two design study configurations of the SST. The design study configurations were representative of variable-sweep and fixed-wing design. Both designs had a variable-incidence forebody.

Facet	Write in applicable descriptors Or check ⇨	Not applicable
B Mode of transportation		☐
E Transp. system elements		☐
F Power		☐
G Propulsion		☐
H Materials to build		☐
J Passenger vs. freight		☐
K Operations		☐
L Provider		☐
M Creation		☐
N Administration		☐
Q General and others		☐
R Geographical range		☐
S Geographical location		☐

Optional. Precombined descriptor:

Document 2 **A Plan for a New Consolidated Passenger Ship Terminal in the Port of New York.**

Passenger ship activity in New York, existing passenger ship piers, design criteria, alternate solutions, proposed custom examination system, proposed terminal layout.

Facet	Write in applicable descriptors Or check ⇨	Not applicable
B Mode of transportation		☐
E Transp. system elements		☐
F Power		☐
G Propulsion		☐
H Materials to build		☐
J Passenger vs. freight		☐
K Operations		☐
L Provider		☐
M Creation		☐
N Administration		☐
Q General and others		☐
R Geographical range		☐
S Geographical location		☐

Optional. Precombined descriptor:

Document 3 **A system for bus rapid transit on urban freeways.** Traffic Quarterly Oct. 1969 Describes the design of a system of buses sharing the general freeway lanes with regular traffic but having separate entrance and exit ramps. A sophisticated traffic control system would give preference to buses to guarantee predictable travel times. Compares cost and effectiveness (as measured by passengers carried in peak travel times) with other rapid transit

Facet	Write in applicable descriptors Or check ⇨	Not applicable
B Mode of transportation		☐
E Transp. system elements		☐
F Power		☐
G Propulsion		☐
H Materials to build		☐
J Passenger vs. freight		☐
K Operations		☐
L Provider		☐
M Creation		☐
N Administration		☐
Q General and others		☐
R Geographical range		☐
S Geographical location		☐

Optional. Precombined descriptor:

gold **Assignments 12.1 - 12.3** **Assigned:** ***Mar. 30+***
Lectures 9.1-10.1, Textbook Chapter 14 ***Due:*** ***Apr. 6+***

Conceptual analysis and synthesis

12.1 and 12.2 assigned after Lecture 9.1 and due at Lecture 10.1, `Apr. 6.
12.3a and 12.3b assigned after Lecture 10.1 and due on `Apr. 13 & `Apr. 20, respectively.

Learning objectives	Solidify understanding of classificatory structure through practicing the process of **conceptual analysis and synthesis** as discussed in Chapter 14 and illustrated through the in-class exercises. (More elaborate: P2.3.9,3#; P2.3.9,3.3#) Specifically: 1. Understand semantic factoring through practicing it (the only way). (More elaborate: P2.3.9,3.2#) 2. Understand how to build a hierarchy through applying the pragmatic definition of *A is broader than B* in a limited set of elemental concepts. Understand the nature of hierarchical relationships among concepts. (P2.3.9,3.1#) 3. Understand the interaction between concept combination and hierarchy. (More elaborate: P2.3.9,3.5#)
Materials, Tasks, Deliv.	See individual assignments in this group

Each part of the assignment is concerned with one step in the process:
(You may want to read the more detailed explanation on the back first.)

Assignment 12.1	Semantic factoring (results in a list of elemental concepts).
Assignment 12.2	Arranging the **elemental concepts** in a well-structured faceted hierarchy.
Assignment 12.3	Fit compound concepts into the framework of the hierarchy (if compound concepts need to be dealt with explicitly)
	Assignment 12.3a is an exercise in facet combination **unconnected** to the set of concepts from Assignment 12.1. The point is to practice building a hierarchy from facet combination. The graded Assignment 12.3a will be returned before you start 12.3b
	Assignment 12.3b returns to the set of concepts from Assignment 12.1, working from the **answer key for Assignment 12.2** and list of original concepts from 12.1, applying the principles learned from Assignment 12.3a.

Note: The concepts given for Assignment 12.1 deliberately come from two domains, *Medicine* and *Transportation*. There might be elemental concepts that apply to both!

gold **Flow of Assignments 12.1, 12.2, 12.3a, 12.3b. More detailed explanation**

There are three steps in the **conceptual analysis and synthesis** in a subject (Lecture 9.1)

Step 1.	Semantic factoring (results in a list of elemental concepts).
Step 2.	Arranging the elemental concepts in a well-structured faceted hierarchy.
Step 3.	Fit compound concepts into the framework of the hierarchy (if compound concepts need to be dealt with explicitly)

We practiced these steps in the interactive sessions; in each sub-assignment you practice what you have learned in an interactive session.

The assignments build on each other. **Submit each assignment for immediate feedback** that will help with the next assignments. For example, 12.1 needs to be done right so you have the right set of elemental concepts for Assignment 12.2.

The overall sequence is as follows:

Lecture 9.1. Semantic factoring and facet organization

Assignment 12.1 Step 1. Semantic factoring (results in a list of elemental concepts). You learned how to do this in, Lecture 9.1, first half

Assignment 12.2 Step 2. Arranging the **elemental concepts** in a well-structured faceted hierarchy. You learned how to do this in Lecture 9.1, second half

Submit your results quickly so they can be returned with corrections before you use them for the next step

Lecture 10.1. Building a hierarchy of compound concepts from facets.

Assignment 12.3 Step 3. Fit compound concepts into the framework of the hierarchy (if compound concepts need to be dealt with explicitly)

This is divided into two pieces.

Assignment 12.3a is an exercise in facet combination to practice what you learned in Lecture 10.1 with a different example. In this example the facets are given. The subject domain is language/verbal ability, quite **unconnected** to the set of concepts from Assignment 12.1. Again, the point is to practice building a hierarchy from facet combination.
Now you are ready to apply what you learned in Assignment 12.3a about building a hierarchy from facets to the set of concepts from Assignment 12.1. This is done in Assignment 12.3b.

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Assignment 12.1
Semantic factoring

Assigned: ***Mar. 30***
Due: ***Apr. 6***

Do before Lecture 10.1.

Learning objectives	Understand semantic factoring through practicing it (the only way). (More elaborate: P2.3.9,3.2#)
Materials	A list of terms that designate compound concepts, **with definitions**, p. ~148.
Tasks	For each term in the list, determine the semantic factors, or components of **meaning**, of the concept it designates, that is, express each concept by a combination of elemental concepts (or what you consider elemental concepts). Consult the definitions given. **If you cannot find semantic factors, or if there are different sets of semantic factors because of term ambiguity, write a comment**. Since you have no list of elemental concepts to choose from, you must make up your own elemental concepts and choose the terms to express them. (This happens often in the construction of index languages.) But be consistent: if the same elemental concept occurs more than once, use the same term each time. Note: Use the most specific elemental concept for each aspect of the concept to be expressed. For example, if the disease is a type of cancer, use the specific elemental concept *cancer* as the semantic factor, not the more general elemental concept *disease*. When you are finished with semantic factoring, prepare a list of the elemental concepts you used. For example, your list should have one entry for *cancer*, which occurs several times as a semantic factor. This list will be the basis for Assignment 12.2.
Deliverables	1 A list of the compound concepts with their semantic factors. 2 A list of the elemental concepts used, each concept on its own line. (This will be the basis for Assignment 12.2.)
Time	1.5 hours

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Definitions you may need

The terms in this assignment (and the concepts designated by these terms) come from the domains of medicine and transportation. You may not be familiar with these terms, but that will happen to you often in practice. You are information specialists, so if you do not know something you should know where to find out. In this case you need definitional knowledge, so you consult a dictionary. To save you time, I compiled the definitions you need here.

Leukemia	Cancer of white blood cells (also called leukocytes)
Mononucleosis	An infectious disease of white blood cells caused by a virus
Pneumonia	An inflammation of the lungs
Conjunctiva	The mucous membrane covering the anterior surface of the eyeball and lining the eyelids **Note: Consider body parts to be elemental concepts**
Conjunctivitis	An inflammation of the conjunctiva. Some forms of conjunctivitis are infectious, others are not.
Wind tunnel	A tubular chamber or structure in which a steady current of air can be maintained at controlled velocity, equipped with devices for measuring [the aerodynamic] forces and moments on scale models of complete aircraft [or cars] or of their parts or of full-scale aircraft [or cars] or their parts. (Random House Dictionary)

Assignment 12.1. Concept list for semantic factoring

Compound concept	Semantic factors – elemental concepts
0. Example **viral hepatitis**	inflammation : infection : virus : liver
1. leukemia	
2. leukemia - diagnosis	
3. leukemia - drug therapy	
4. leukemia - radiation therapy	
5. pneumonia	
6. pneumonia treatment	
7. lung cancer	
8. mononucleosis	
9. conjunctival cancer	
10. conjunctival cancer - radiation treatment	
11. conjunctivitis	
12. conjunctivitis - drug therapy	
13. highway repair	
14. diagnosis of car problems	
15. car repair	
16. wind tunnel	

List of elemental concepts (use assignment template)

gold **Assignment 12.2** ***Assigned: Mar. 30***
Due: Apr. 6

Building a faceted classification of elemental concepts

Do before Lecture 10.1.

Learning objectives	Understand how to build a hierarchy through applying the pragmatic definition of *A is broader than B* in a limited set of elemental concepts. Understand the nature of hierarchical relationships among concepts. (P2.3.9,3.1#)
Materials	The list of elemental concepts produced in Assignment 12.1 **Check the version from the answer sheet before you start**
Tasks	Build a faceted classification of elemental concepts shown as a linear arrangement with indention (with cross-references as needed). **For elaboration see next page.**
Deliverables	A faceted classification of elemental concepts **shown as a linear arrangement with indention** (with cross-references as needed)
Time	1.5 hours

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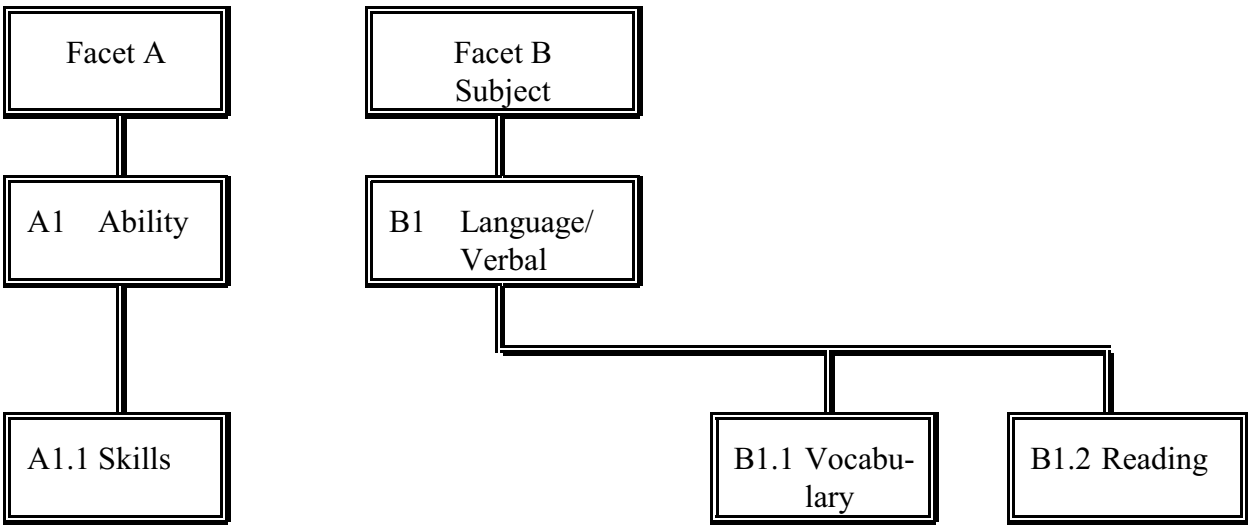
Elaboration of task:	**Build a faceted classification of elemental concepts**
Include only elemental concepts	In Assignment 12.1 you started from a list of compound concepts and derived elemental concepts through semantic factoring. You prepared a **list of elemental concepts**. Here you start from this list (do not include any other concepts) and establish the hierarchical relationships among them. For example, in the hierarchy **do include** *cancer* (elemental concept) **do not include** *leukemia* (*cancer of leukocytes*) (compound concept) You will have a chance to fit compound concepts into a hierarchy in Assignment 12.3b, where you will build a hierarchy that includes all the concepts used in Assignment 12.1 in a well-structured arrangement.. Avoid a frequent mistake: In a hierarchy listing such as disease . cancer . . diagnosis "Diagnosis" does not refer to the elemental concept *Diagnosis* but to the combination *cancer > diagnosis* The **elemental** concept *diagnosis* belongs to different facet.
All hierarchical relationships	Be sure to introduce all hierarchical relationships that are useful for searching and/or the checklist technique of indexing. Before you stipulate that concept A has a **N**arrower **T**erm B, ask: **Does a user searching for A want to find all entities dealing with or relevant for B**?
May need additional broad concepts	**You may need to introduce additional broad concepts to make for a more logical, more easily understood hierarchy**. In many places additional specific concepts will suggest themselves from the logic of your hierarchy; you need not add those, but you may add a few examples.
Overall arrangement	Your hierarchy may include one part for *medicine*, one part for *transportation*, and one part for concepts needed in both domains (if any) or not fitting in any of the two domains.
Represent the hierarchy in outline format	The hierarchical relationship A has **N**arrower **T**erm B should be shown by arrangement and indention (outline format) where possible and through a cross-reference otherwise. A hierarchy shown in a linear arrangement is often easiest to construct and always easiest to read. Since the hierarchy contains only elemental concepts there will be few if any cross-references needed.

gold **Assignment 12.3a** ***Assigned:*** ***Apr. 6***
Due: ***Apr. 13***

Hierarchy from facet-combination. General practice

Learning objectives	Understand the interaction between concept combination and hierarchy. (More elaborate: P2.3.9,3.5#)
Materials	The faceted classification of elemental concepts (two facets, hierarchy within facets shown) p. ~154
Tasks	**Construct the hierarchy of elemental and compound concepts generated by the two facets** given. Use only between-facet combinations, that is, only combinations of an A-concept with a B-concept. Do not combine the facet headings (Facet A, Facet B) with anything. **Represent this hierarchy in a 2-D graph**. (You can draw on the assignment sheet.) Then **represent the hierarchy in outline form** (a linear arrangement with indention) **with cross-references**. Repeat this choosing a different possibility for the linear arrangement. **Note 1**: When you do a linear arrangement with cross-references, many hierarchical relationships are shown by the arrangement. These relationships do not need to be shown again through cross-references. **Only relationships <u>not</u> shown through the arrangement require cross-references**. **Note 2.** This assignment uses classification concepts and procedures already discussed but you may still find it difficult; this is the first case with hierarchy in **both** generating facets. This assignment shows you (and the instructor) to see just what you do or do not know and forces you to thoroughly think about the problem. The assignment prepares you for Lecture 10.1. **Note 3**: To illustrate constructing a hierarchy from facet combination, this assignment uses a simple example unconnected to the set of concepts from Assignment 12.1. You deal only with the concepts given on the following page and their combinations; **do not introduce any other concepts.**
Deliverables	1 Hierarchy in 2-D graphical arrangement. (Can be on the assignment sheet and scanned. Do not waste time with computer graphics.) 2 Hierarchy in linear arrangement with indention, with cross-references. Facet A first, facet B subordinate. 3 Hierarchy in another linear arrangement with indention, with X-ref. Facet B first, facet A subordinate.
Time	3 hours

Assignment 12.3a



gold **Assignment 12.3b** ***Assigned: Apr. 13***
Due: Apr. 20

Hierarchy from facet-combination. Application to the set of concepts from Assignment 12.1

Do after Lecture 10.1.

Learning objectives	Understand the interaction between concept combination and hierarchy. (More elaborate: P2.3.9,3.5#)
Materials	1 The original list of compound concepts given in Assignment 12.1 2 The hierarchy of elemental concepts created in Assignment 12.2 **The hierarchy of elemental concepts should look like the answer key from Assignment 12.2**.
Tasks	Construct hierarchy from facets for the Assignment 12 subject domain Elaboration see next page. Assignment 12.3b returns to the set of concepts from Assignment 12.1, applying the principles learned from Assignment 12.3a
Deliverables	A hierarchy in outline form (linear arrangement with indention) and cross-references for the concepts presented in Assignments 12.1 and 12.2.
Time	2 hours

over

Elaboration of Task: Construct hierarchy from facets for the Assignment 12 subject domain	
	You will now apply the principles you have learned from Assignment 12.3a to the set of concepts from the Assignment 12 domain. Arrange all the concepts from Assignments 12.1 and the **answer key for 12.2** (both the compound concepts which are given and the elemental concepts that you derived) in a hierarchy. Represent the hierarchy in a linear arrangement with cross references; **graphical representation is not required and would be too complex** (there are too many concepts). Start from the hierarchy of elemental concepts you developed in Assignment 12.2 (as corrected after receiving the answer key) and fit the compound concepts given in Assignment 12.1 into the structure. A compound concept has more than one broader concept, one for each semantic factor; choose one place for the arrangement and make a cross-reference from the other**. Do not create all possible combinations of elemental concepts (as you did in Assignment 12.3a); just use the compound concepts actually listed in Assignment 12.1**, possibly adding a few new concepts to fill in hierarchical steps or otherwise make the hierarchy more logical .
Hints	Use a word processor. Copy the hierarchical arrangement of elemental concepts from **the answer key for 12.2**, then copy and paste each of the terms for the compound concepts you were given for Assignment 12.1 into one of its possible places in the hierarchical arraignment, using the semantic factors as your guide; make a cross-reference to and from the other possible place(s). Remember that you already dealt with the meaning of all these terms when you did semantic factoring in Assignment 12.1; now you just use the semantic factors as a guide for fitting the compound concepts into the hierarchical arrangement with cross-references. Write out each term so it can stand on its own outside the hierarchy: **Not** leukemia . diagnosis **but** leukemia . leukemia – diagnosis [LCSH form. Yahoo form: leukemia > diagnosis]
Important note:	Do not introduce cross-references for hierarchical relationships that can be seen from the arrangement. Cross-references are used to show **additional** hierarchical relationships.

gold **Assignments 13.1 - 13.4** (Lectures 10.2-11.2) (There is no Assignment 13 per se)

Analysis of and practice with Knowledge Organization Systems (KOS)

P. ~157-158 apply to ALL Assignments 13.1-13.4 (Example of **hierarchical inheritance**)

Learning objectives	**Be able to use Knowledge Organization Systems to index and to search.** 1 **General: Understand the principles governing the structure of KOS** (Knowledge Organization Systems) and be able to apply these principles to an analysis of existing schemes. (More elaborate: P2.3.9,3#) 2 **Specific: Gain some familiarity with the KOS covered** and grasp their basic structure and be able to use them to index documents and to formulate queries in simple cases. (More elaborate: P2.3.9,4#). **Schemes/KOS to learn about** 13.1 Dewey Decimal Classification (DDC): Discussed `Apr. 6, **due Apr. 20** 13.2 Yahoo: Yahoo classification (semi-faceted) Discussed `Apr. 13, **due Apr. 20** **OR** LCC: Library of Congress Classification Discussed `Apr. 13, **due Apr. 20** **OR** DDC 2 Not discussed , **due `Apr. 20** 13.3 LC/Sears Subject Headings (LCSH): Not discussed**, due `Apr. 27** 13.4 ERIC Thesaurus: Not discussed**, due `Apr. 27**
Materials for exploring the schemes	For every scheme, the following **types** of material are included or referenced • Overview, list of readings and other materials (yellow) • **Worksheet** and introduction to electronic version, if any (white) • Outline for the analysis of Knowledge Organization Systems (KOS) (purple) • Instructions for indexing and query formulation (white) • Reference to the electronic version and sample pages from print version (white) Note: When using the electronic version you can copy and paste into the worksheet answers and the indexing and query formulation
Materials for applying the schemes	• **Document Indexing Forms A -C and Query Forms D - F**, p. ~159 - ~172 • **Pages from each document** (same docs as Ass. 8, Descriptive cataloging): title page, cover or jacket blurb, and table of contents, starting on p. ~173-196 • **The Model Catalog** (the first reading) **is helpful as a source of examples**. Use to study the application of the various KOS and to compare them.
Readings	Needham, Christopher D. **Organizing knowledge in libraries: An introduction to information retrieval**. 2nd ed. New York: Seminar Press, 1971. Ch. 7 **Review of classification principles**, p. 109-132 (facet analysis & synthesis) Ch. 8 Schemes of classification, esp. p. 133, **DDC**, p.140-152; **LCC**, p. 163-168 Still the clearest exposition of timeless classification principles. **Required**

Over

Tasks for every scheme	**1 Guided exploration (worksheet)** • Read introductory materials. Attend lecture / follow presentation. Includes familiarizing yourself with the scheme and how it is presented online, in print (find in some library and see the sample pages included). • Finish the **worksheet** as applicable, including learning the electronic version.
	2 Indexing and query formulation • For each of the schemes you selected to work on (and only for these) **Index 3 documents (A-C**, all on education) **Formulate 3 queries** (D-F, 2 on education, 1 on transportation). **For elaboration see p. ~159.** **3 Summary analysis** • Read and contemplate, the **Outline for the analysis of Knowledge Organization Systems** (purple), pre-filled for every scheme but LCSH • **Only for LCSH/SSH:** fill in the purple sheet using the pre-filled-in forms as examples. Telegraphic style ok. If an answer would require extensive study, give your best guess and mark it "(guess)".
Deliver-ables	1 **For DDC, Yahoo or LCC, and ERIC**: The worksheet answers, in the worksheet or on a separate page, labeled with the acronym for the scheme. 2 **Only for the schemes you select to work on**: Subject descriptors/class(es) filled in the appropriate space of each Document Indexing Form Query formulation filled in the appropriate space of each Query Form 3 **Only for LCSH/SSH**: The filled-in Outline for the Analysis of KOS (purple)

Notes

On the Document Indexing Forms and Query Forms: You will fill these in incrementally as you work on each of your selected schemes. When you submit the work for one scheme, just submit the latest version if the Forms file with that scheme's space filled on each form.

You can work on these assignments in study groups, but you must submit the deliverables individually.

You may want to schedule a lab session with instructor or TA.

gold

Document Indexing Forms A - C
Query forms D - F

For each of the schemes you selected to work on (and only for these)

Index 3 documents (A-C, all on education). For each document, a copy of the title page, the cover or jacket blurb, and the table of contents are provided starting on p. ~173-196.
The third document is a Web site, http://forum.swarthmore.edu/mathmagic (still active, but changed, use pages provided).

For each document there is a *Document Indexing Form*.
For each scheme, there are specific instructions for indexing.

Formulate 3 queries (D-F, 2 on education, 1 on transportation).

For each query there is a *Query Form*.
For each scheme, there are specific instructions for query formulation.

The indexing and query forms provide for each scheme a space for entering the descriptors/class(es) from that scheme for ease of comparison. Enter the descriptor/class number (notation) (if any) and the descriptor/class text, for example,

DDC:	371.5	Education > Elementary ed. > El. ed. in special subjects > Computers, science, technology, health > Science and tech.
ERIC:		Elementary School Science
LCSH:		Science - Study and teaching (elementary)
Yahoo:		Science > Education > K-12 [el. school not available]
LCC:	LB1535	Education > Theory and practice of education > Elementary or public school education > Special branches > Nature study. Science > General works

Add comments or observations on each scheme in the space for the scheme, spilling over to the comment area at the bottom if needed. Add comments or observations on the comparison of two or more schemes at the bottom

gold

DDC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

Web directory precombined class(es):

Elemental indexing concepts (components of the class):

LCC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

LCSH or **SSH** headings (no more than 5)	**ERIC** descriptors (no more than 10)

Comments (on any of the schemes or on comparisons):

DDC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

Web directory precombined class(es):

Elemental indexing concepts (components of the class):

LCC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

LCSH or **SSH** headings (no more than 5)	**ERIC** descriptors (no more than 10)

Comments (on any of the schemes or on comparisons):

DDC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

Web directory precombined class(es):

Elemental indexing concepts (components of the class):

LCC class: Alternate class:

Hierarchical chain (in words):

Components (if class was built):

LCSH or **SSH** headings (no more than 5)	**ERIC** descriptors (no more than 10)

Comments (on any of the schemes or on comparisons):

D Query form. **(1) Mexicans in (2) American schools** 167
(1) Mexican-Americans and aliens from Mexico. (2) American is understood, so just look for schools

---

DDC List 5 - 7 representative classes from across the classification

---

Web directory List 5-7 classes or give a Boolean query formulation using elemental concepts from the Web directory

---

LCC List 5 - 7 representative classes from across the classification

---

LCSH or **SSH** List 5 - 7 representative subject headings from across the alphabet

---

ERIC Give a Boolean query formulation using applicable ERIC descriptors
(Some concepts may require an OR combination of descriptors similar in meaning.)

Comments (on any of the schemes or on comparisons):

E Query form. **Mexicans in American society** (a topic broader than D) 169
(Mexican-Americans and aliens from Mexico)
(For the Web directory, DDC, LCC, and LCSH/SSH, all the classes or headings for query D must be used in searching; no need to repeat them. Just give a few of the many additional classes or headings

---

DDC List 5 - 7 illustrative additional classes

Web directory List 5 - 7 illustrative additional classes or give a Boolean query formulation using elemental concepts from the Web directory

---

LCC List 5 - 7 illustrative additional classes

LCSH or **SSH** List 5 - 7 illustrative additional subject headings

---

ERIC Give a Boolean query formulation using applicable ERIC descriptors

Comments (on any of the schemes or on comparisons):

F Query form. **All aspects of canals (for transportation)** 171

(This query illustrates that the main classes in DDC and LCC are based on disciplines, not on concrete objects. Observe the "relative" nature of the alphabetical index in DDC which brings together all the different places where **Canal** occurs in the scheme.)

DDC List 5 - 7 representative classes from across the classification (use Dewey for Windows)

Web directory List 5 - 7 representative classes or give a Boolean query formulation using elemental concepts from the Web directory

---

LCC List 5 - 7 representative classes from across the classification (use Cataloger's Desktop)

LCSH or **SSH** List all applicable subject headings (use electronic version)

No **ERIC** query

Comments (on any of the schemes or on comparisons):

Document materials

for the three documents to be indexed

A. **Differentiating the teaching staff**. / James Lewis

B **The open classroom reader**. / Charles E. Silberman, editor

C **MathMagic** (The website http://forum.swarthmore.edu/mathmagic)

BY THE SAME AUTHOR

Administering the Individualized Instruction Program

A Contemporary Approach to Nongraded Education

James Lewis, Jr.

Differentiating the Teaching Staff

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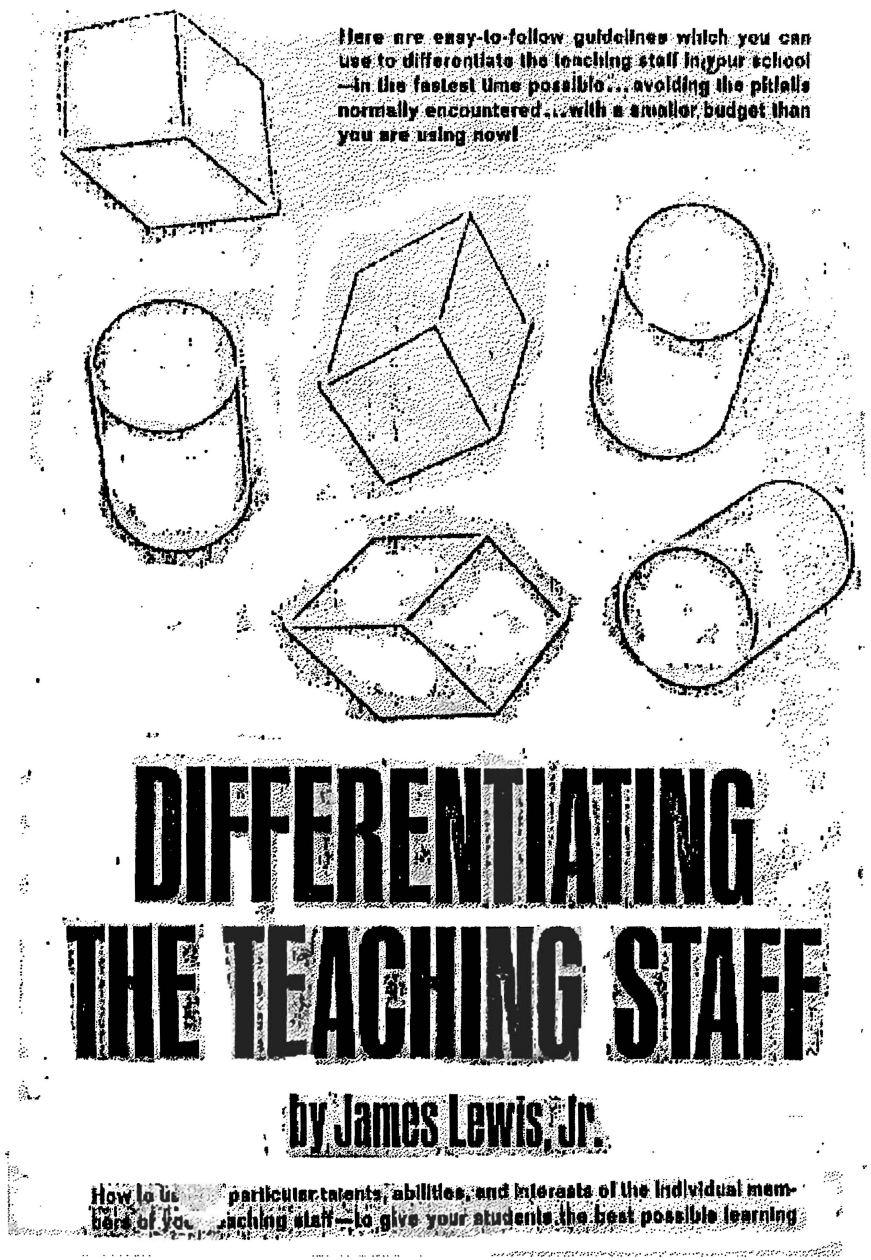
To my deceased brother
Joseph



DIFFERENTIATING THE TEACHING STAFF

by JAMES LEWIS, JR.

For the first time anywhere - here is an easy-to-read, comprehensive guide that explains everything you need to know about planning, developing, and implementing a successful differentiated staffing program - to turn your school into one of the most effective institutions of learning in the country!

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2. GUIDELINES FOR PLANNING THE DIFFERENTIATION OF THE TEACHING STAFF
3. DESIGNING A MODEL FOR DIFFERENTIATING THE TEACHING STAFF
4. ORIENTING AND TRAINING TEACHERS FOR STAFF DIFFERENTIATION
5. PITFALLS TO AVOID WHEN DIFFERENTIATING THE TEACHING STAFF
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S. ACCOUNTING FOR ACCOUNTABILITY
9. DEFRAYING THE COST FOR DIFFERENTIATED STAFFING
10. EVALUATING THE EFFECTIVENESS OF DIFFERENTIATED STAFFING

ABOUT THE AUTHOR

Dr. James Lewis, Jr., is Chief School Officer of the Wyandanch Public Schools, Wyandanch, Long Island, New York. He has been a teacher, supervisor, principal, and a district administrator.

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In addition - Dr. Lewis has conducted a number of professional workshops on the Nongraded Concept, and he has been asked to speak before professional organizations, parent groups, and college classes. On numerous occasions, he has appeared on radio and television.

DIFFERENTIATING THE TEACHING STAFF

by JAMES LEWIS, JR.

Whether you are a school board member, supervisor, or administrator – this guide could possibly be the most important one you will ever read – for it is the only one that explains clearly, simply, and completely how you can implement differentiated staffing in your school -- the revolutionary new way to organize your teaching staff that capitalizes on their individual talents, abilities, and interests -- to dramatically improve their teaching effectiveness.

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For example, the vital information you'll find in these pages -- presented in lucid, how-to-do-it terms -- includes:

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- **How you can implement a solid plan for differentiating your teaching staff – crystal-clear guidelines that eliminate guesswork**
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- **How you can put easy-to-use methods to work for you for orienting and training your staff for differentiated teaching**
- **How you can avoid all the typical roadblocks when you implement differentiated staffing**
- **How to devise a flexible schedule**

(continued on back flap)

Book Jacket Flaps

(continued from front flap)

- **How to facilitate individualized instruction using the systems approach to education**
- **How to renovate the school plant for differentiated staffing**
- **How to account for accountability – the best methods to use**
- **How to reduce costs for differentiated staffing**
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- **Display of Individual Study Units**
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- **Federal titles and other agencies for obtaining funds for differentiated staffing**
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THE OPEN CLASSROOM READER

Edited by

Charles E. Silberman

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RANDOM HOUSE
New York

EDUCATION

This companion volume to Charles E. Silberman's best-selling *Crisis in the Classroom* has been designed for teachers, students, administrators, parents, school board members—in a word, for anyone who is dissatisfied with the status quo in the elementary school and who wants to explore the alternative approaches that go under the rubric of informal education, open education, and the open classroom. Containing sixty-five selections from American, English, and Canadian sources, many of them previously inaccessible to a wide audience, plus a general introduction by Mr. Silberman and his running commentary explaining why each selection has been made and how it fits into the overall framework, this book is the most complete reader available on the open classroom.

Each section of the book presents practical explanations and detailed descriptions of classroom activities and methods, interspersed with theoretical discussions. Mr. Silberman insists that method is important because theory alone can leave a teacher helpless when face to face with twenty or thirty children—but he insists also that method alone will leave the teacher a mere technician with a sterile bag of tricks. He views open education less as a model or set of techniques than as an approach to teaching and learning—a set of shared attitudes and assumptions about the nature of childhood and adolescence and about the aims and processes of education.

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First Edition

For Ellen
My First Daughter

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Welcome to MathMagic on the Web!

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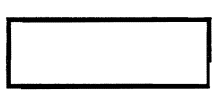
Helpful Files from the ftp server

File Name	Description
Registration Form	Template to become a fully registered participant (Includes co$t)
Sponsor's Quick Guide	Basic information about sponsoring a team
After Registration	Coordinators: start here - Nuts and bolts on how this project works
Registered? - What to do next	More help on getting started and some Do's and Don'ts
MathMagic Carriers	Information for folks wanting to help their school districts by acting as a go-between (Limited e-mail access)
MathMagic's FAQs	The whole MathMagic enchilada - full text of the project
MathMagic Netiquette	Valuable operational suggestions by Sherri
Submitting Problems	Guidelines for folks wanting to contribute challenges
Other Information Sources	Alternate gopher, ftp and e-mail access to the project
Internet by e-mail	Informational article about how to access the Internet via e-mail by "Doctor Bob" Rankin
Network Providers	Information on how to procure a provider in your area

Click here for other Math/Education sources



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What is MathMagic?

MathMagic is a K-12 telecommunications project developed in El Paso, Texas by Alan A. Hodson. It provides strong motivation for students to use computer technology while increasing problem-solving strategies and communications skills. MathMagic posts challenges in each of four categories (k-3, 4-6, 7-9 and 10-12) to trigger each registered team to pair up with another team and engage in a problem-solving dialog. When an agreement has been reached, one solution is posted for every pair.

MathMagic has received wide ideological acceptance by hundreds of past FidoNet users (spearheaded by Carol Hooper), because it addresses most of the National Council of Teachers of Mathematics standards. A modified format expanded into the Internet and has been available via regular e-mail or via the World Wide Web (WWW) since 1993.

Who can participate?

K-12 teachers and students, but higher education teachers, librarians, technology coordinators, computer teachers, and even home-schoolers are joining to act as facilitators.

What is needed?

Any teacher with access to electronic mail via the Internet can participate. AllInternet Service Providers (AOL, Compuserve, FlashNet, PrimeNet, etc.) now offer e-mail gateways and other Internet services. MathMagic is best suited to schools that use computers with modems and/or have direct Internet access.

In some areas, a local Bulletin Board System (BBS) or a Net user (such as a parent with net access) may have to act as a go-between. Please ask about special arrangements.

Return to Mathmagic Main Page
Move on to How do I Participate?

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Who can answer more questions?

Alan Hodson, high school math/technology teacher with the El Paso ISD is in charge of the Internet component of the project. Write to him at:

```
ahodson@cs.utep.edu or
aahodson@episd.elpaso.k12.tx.us
```

For trouble-shooting try Net Team Coordinator/volunteer :

What other informational files are available?

One of the distinctive features of MathMagic is that the whole project is available to people who have only e-mail capabilities. Any of the files/directories accessed via ftp/gopher can also be found via e-mail.

To receive more information on MathMagic and the files available, send E-MAIL (no "Subject:" needed) to:

```
mail-server@forum.swarthmore.edu
send index
```

Once the automated mailer responds, you can request any of the files by replacing the index of the command above with an exact filename from the list generated by INDEX (see below for a list of files that can be requested).

FTP: (File Transfer Protocol - ask your System Manager for specs)

Lynx or browser users: ftp://forum.swarthmore.edu/mathmagic

All other users can also ftp the MathMagic information files using the ftp// format as the URL. GOPHER access is also available:(ask your system manager for your specs)

Some of the files that can be requested are:

```
INDEX
after-registration
getting-information
mathmagic-carriers
mathmagic-faq (THIS FILE)
network-providers
problem-submissions
registration-form
sponsors-guide
```

Are previous posts/challenges available?

If you are interested in looking at some of the earlier postings, after gophering in as indicated above choose:

```
2. Forum's Archive
     7. Monthly Digests
     (From here you can choose the /mm-list and /month):
      example: 22.mathmagic.7.9/archive.Jul.94
```

The e-mail equivalent to procure previous posts is to send e-mail (without subject) to:

```
mail-server@forum.swarthmore.edu
```

with the command:

```
send monthly.digests/mathmagic.k-3/archive.January.94
                     ----(1)----          ----(2)--
```

You can replace -(1)- with any of the other lists (mathmagic.4-6; mathmagic.7-9; mathmagic.10-12 or mathmagic-general) and/or replace -(2)- with any other month February.94; March.94, etc. PLEASE notice the dots between the words.

Return to Mathmagic Main Page
Continue to Adult Involvement

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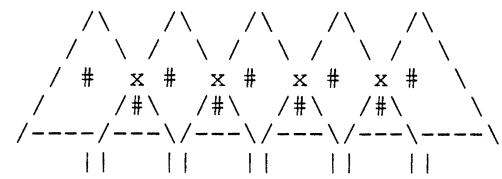
(01/07/97) Happy New Year!

****

MathMagic Cycle 23: Level K-3 Regular

****

Last Christmas, while cutting trees form colored acetates (see-through "plastic" sheets) I ended up lining five trees next to each other, their sides overlapping like this:



For decorations, I cut nine circular bulbs out of shinny paper, wrote numbers one through nine and was able to place them on the "#" spots so that the sum of all the digits in any two adjacent (next to each other) trees was 20. Working with your NTPs, can you tell us how they should be arranged? Make sure to copy down the steps you take when sharing your answers with us.

****

MathMagic Cycle 23: Level K-3 Advanced

****

Professor Susan Addington from the Geometry Center at the University of Minnesota (www.geom.umn.edu) has done some wonderful work with discrete dynamical systems (fancy name for fun stuff.)

Her "Number Bracelets Game" is described below. It can be as simple as working with the beads only, but it can quickly lead into higher math.

Begin by having lots of "beads" numbered zero through nine, with as many as you want of each kind:

(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)

Now follow these rules:

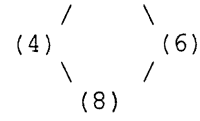
a) Pick a first and second bead (can be the same number):
(2) (6)

b) To choose the third bead, add the first and the second beads. If the number is more than 9, just use the last (ones) digit of the sum:
(2) (6) (8)

c) To get the next bead add the last two digits and use only the ones digit: (2) (6) (8) (4)

d) Keep doing this until you get back to the first and second beads in that order:
(2) (6) (8) (4) (2) (6)
-------- --------
first 2 repeated

Since you don't want repeated numbers in your bracelet, the bracelet will only have these four digits:



Questions:

1- How many different starting pairs of beads are there?
2- What is the longest bracelet you can make?
3- Is there a string of beads that never repeats?
4- If you start with the same two beads, but in opposite order, do you get the same bracelet? Do you get the same bracelet in reverse?

Remember to write down your steps and conclussions.
==========
Good luck
MrH

gold **Assignment 13.1** ***Assigned: Apr. 6***
Due: Apr. 20

Dewey Decimal Classification

Much information inherited from Assignments 13.1-4 (p. ~157 - 158)

Learning objectives	Inherited
Materials Inherited, specifics added	1. The newest edition is edition 23 (2012). Most of you will use WebDewey, which is updated to edition 23. If you have the opportunity, you should also look at and work some with the print version (edition 22 (2003) or 21(1996), available in many libraries, will also do; the structural principles and the basic layout endure 2. General summary of DDC and more detailed summaries of the areas of Education and some sample pages are included, see p. ~220 - . 3. Web Dewey Exploration p. ~207 - 213 4. Resources on the Web (optional): http://www.oclc.org/dewey/
Readings Inherited, plus	**In addition, optional** DDC 23. **Introduction to the Dewey Decimal Classification** https://oclc.org/content/dam/oclc/dewey/versions/print/intro.pdf For further study Chan, Lois Mai; Comaromi; Mitchell, Joan **Dewey Decimal Classification: Principles and Application**. 3. ed. Dublin, Ohio : OCLC, 2003. xi, 216 p. Find in a library
Tasks Inherited, repeated for con-venience	**1 Guided exploration (worksheet)** A good part of the worksheet will be done in Lecture 10.2b. Best: first see what you can figure out for yourself on your own or in a study group, then listen to the presentation. During the lecture, fill in the worksheet answers. After the lecture complete the remainder of the worksheet. **2 Indexing and query formulation** **3 Summary analysis**. Read and contemplate the pre-filled *Outline for the Analysis of Knowledge Organization Systems* (purple)
Deliver-ables Repeated	1 The worksheet answers 2 The Document Indexing Forms and the Query Forms, space for DDC filled in.
Time	6 hours

DDC Worksheet

65 min. **1. General layout and principles of use of DDC**	
General layout	Look at the volumes (if you have access to a printed version of DDC) or look at the sample pages starting on p.~219 and familiarize yourself with the general layout of the classification by reading through the first and second "summary" (including the summary of the "Tables"). Then skim the third summary, reading thoroughly only the section 370, 380, and 620 (all attached). Then skim 370 and 380 in the schedules (vol. 2), skim 629.2 (vol.3). **Do the WebDewey exercise** (below), parts A and B **now**, before going through the rest of the worksheet, part C later.
Fundamental rules of use	(1) **Never assign a class number simply taken from the alphabetical (relative) index; always check the number in the schedules before using it**. Finding the appropriate class number is often quicker in the schedules (scan the right section) than in the alphabetical (relative) index with subsequent check in the schedules. (2) **Always read the instructions given in the schedules and in the manual** very carefully. **There are many exceptions to general rules!**
Focus of document	**For determining the proper DDC class always ask yourself**: What is the **focus of this document**? Where does this document belong basically? See examples on the next page

Document focus examples

Example 1. Sheep

The anatomy of sheep		Keeping sheep. A farmer's manual		Sheep hunting for profit and pleasure	
500	**Natural sciences and mathematics**	**600**	**Technology (Applied Sciences)**	**700**	**The arts. Fine & decorative**
590	. Animals [natural history and descriptive biology]	630	. Agriculture and related	790	. Recreational and performing
599	. . Mammalia (Mammals)	636	. . Animal husbandry	799	. . Fishing, hunting, shooting
599.6	. . . Ungulates	**636.3**	. . . **Sheep**	799.2	. . . Hunting
599.64	. . . . Bovidae			799.27	. . . . Specific big game
599.649	. . . . . **Sheep**			799.27|6	. . . . . Ungulates
				799.27|64	. . . . . Bovidae
				799.27|649	. . . . . **Sheep**

- **Always interpret the meaning of a class caption in context**

  599.649 means the *natural history and descriptive biology of sheep*

  799.27|649 means the *hunting of sheep*
- The classes 799.27|6, 799.27|64, and 799.27|649 are built from the pattern under 599; more on building classes in Section 3. (the symbol | separates components of a built class number.)
- All these numbers are found under *sheep* in the relative index where you can also see that *sheep's milk* and *sheep's wool* are in different places still.

Example 2. Taxicabs. Document: **Urban transportation services using taxicabs**

The document is clearly focused on *Commerce, communication, transportation*, specifically local transportation. It would therefore be wrong to use

629.222 32 Taxicabs

which is part of 600 *Technology* and means *Technical aspects of taxicabs*. The correct class is

300	The social sciences (the main class)
380	. Commerce, communication, transportation
388	. . Ground transportation
388.4	. . . Local transportation [*Urban transportation* is local]
388.41	. . . . Vehicular and pedestrian traffic
388.413	. . . . . Activities and services
388.413 2	. . . . . Vehicular services
388.413 21	. . . . . Services by private passenger automobiles
388.413 214	. . . . . **Taxicabs and limousines**

Now give the class number for

The economics of trucking services (Hint: check out 629.22 and 388.3 and note that trucking services could be local or long-distance, thus do not fit under 388.4):

▸**A**

40 min. **2.**	**Building new precombined classes May need to ask questions about this**
Introduction	The DDC schedules (vols 2 and 3) enumerate many precombined descriptors, but packing all the concepts of a document theme into one class often requires still more precombination. DDC allows for building new precombined descriptors (classes). Since each built class is represented by a built class number, this is often called **number building**. Any Dewey class number (enumerated or built) has a decimal point after the third digit and a blank space after the sixth digit. We show the division of a built number into its components through |. (**The symbol |** setting off components of a built number **is not part of the "official" Dewey number**. But in this assignment numbers include the | for better understanding.) To build the number for a new precombined class, one starts with a class number given in the schedule and appends digits from another place, often from a table, as explained in this part of the worksheet. Note: In Dewey number building instructions, "add" it means "append". In LCC number building instructions, "add" means "use a calculator".

2.1 Building new precombined classes 1: General tables	
General *Tables* (v. 1)	General *Tables* are used in many places in DDC. Numbers from these tables are never used alone but are combined with (appended to) simpler numbers. The following instructions introduce **Table 1. Standard subdivisions** and **Table 2. Geographical areas**.
Table 1. **Standard Subdivisions**	Numbers from Table 1 may be combined freely with any number from the schedules. Example 1 *modern Indic languages* (491.4), *classification of* (Table 1 / -012): 491.4|012. (Note: The '-' in front of 012 just shows that this number must not be used alone; the hyphen does **not** become part of the number: 491.4-012 is wrong!) Example 2 530|.0712 *12th grade physics curriculum* (530 Physics, Table 1 / -0712 Secondary ed.) (But: Class textbooks, school activities in a subject in 001-999 without adding notation T1--071 from Table 1. In DDC 22 one could class a 12th grade physics textbook here.) Now build the class number for **Railroads (385) directory (of persons and organizations) (T1 / -025):** **▸B**

2.1 Building new precombined classes 1: General tables, continued	
Table 2. **Areas**.	**Areas from Table 2 can be added according to the following rules**: (1) **By direct addition when so noted in an instruction in the schedules** Examples: 378.73 Higher education in the US (as instructed at 378.4-.9) 372.9 *Historical, geographical, persons treatment of elementary education* has a note to add directly from Table 2, T2 / -52 is *Japan*, thus 372.9|52 *Elementary education in Japan* (2) **Through the interposition of "Standard Subdivisions" notation -09 from Table 1** whenever there is no special instruction. Example: 385 *Railroad transportation* has no special instruction about adding areas directly, thus 385|.09|52 Railroad transportation in Japan The "linkage" function of the standard subdivision -09 is fully explained under Table 1, -093-099 Treatment by specific continents, countries, localities; extraterrestrial worlds History and description by place, by spec. instance of the subject Add "Areas" notation 3-9 from Table 2 to base number - 09. e.g., the subject in the *United States* - 09|73, in *Brazil* -09|81, in *North America* -09|7. Class persons associated with the subject regardless of area, region, place in -092; treatment by areas, regions, place not limited by continent, country, locality in -091; history and description of the subject among groups of specific kinds of persons in -088, among specific racial, ethnic, national groups nondominant in their continents, countries, localities in -089. Now build class numbers for the following:: **River transportation (386.3) in the U.S. (T2 / -73)** (no instruction with 386.3) **‣C** **The role of trucks in transportation in Germany (area -43)** **‣D** Again: Add area numbers without intervening 09 only if instructed to do so.

	2.1 Building new precombined classes 1: General tables, continued
General tables 3 -7	Never append numbers from Tables 3-7 unless an instruction tells you that they can be used.
Combination from several tables	When so instructed (and only then), you can build a highly precombined class by appending from two tables. For example, go to Table 1 / -025; following the instruction, one can build 385|.025|52 *Railroad directories for Japan*.

15 min.	**2.2 Building new precombined classes 2: Local tables**
	Local tables found in the schedules apply only to a specified range of classes. For example, at the beginning of 372.3 - 372.8 *Elementary education in specific subjects* (DDC21 vol.2, p. 779), there is a table that applies only to this range of classes. This table "hijacks" -04 of Table 1. Read this table and the instructions, and then build the class number for Curriculums for elementary school science: **‣E** For a more extensive local table see 362-363 *Specific social problems and services* (vol.2, p.682), which gives such concepts as 1 *Social causes* and 62 *Standards*, or 616.1- 616.9 *Specific diseases* (v 3, p.68).

15 min.	**2.3 Building new precombined classes 3: Applying the pattern of subdivision found in a different place in the schedules as a model**
Pattern models	In Section 1 (Example 2) we saw **388.413 214 [Transportation services by] Taxicabs and limousines** (focus on service, qualified by the type of vehicle used). Now assume we have a book The role of taxicabs in transportation, a book on taxicabs, not on their technical construction but how they are used in transportation**.** The focus on vehicles, specifically taxicabs. There is no enumerated class for this topic, the classification goes only as far as shown here:

	300 The social sciences (the main class) 380 . Commerce, communication, transportation 388 . . Ground transportation 388.3 . . . Vehicular transportation 388.34 . . . . Vehicles To build a class that specifies the role of **taxicabs** in transportation, follow the instruction given for 388.342-.348: Add to 388.34 the numbers following 629.22 in 629.222-228, where *taxicab* is 629.22**232,** thus *taxicabs as used in transportation* is 388.34|232. In other words, the subdivision of vehicles given in the technical class is reused here, saving space in the schedule. Now build the class number for **Trucks (transportation focus)** **▸F**

	2.4 More examples for building classes
More examples	For further examples see the model catalog. But note that in the model catalog, numbers for area and historical period have been added far beyond what is usual, resulting in long numbers. The common practice often omits the area 73 U.S. and the modern time periods. DDC 18 allowed for even more highly precombined (and longer) numbers: 09 followed by area notation followed by time notation taken from 930-990; the official rules of DDC21 (started in DDC19) allow only subdivision by place and **not** further subdivision by time. Example: DDC18: 386.4|09|73|0917 Canal transportation in the U.S. in the Administration of Franklin D. Roosevelt DDC21: 386.409|'73 Canal transportation in the U.S. Any individual system can, of course, apply DDC any way its designers see fit if they are not worried about compatibility.

45 min.	**3. Probing the conceptual cross-reference structure (Broader Term, Narrower Term, Related Term)**
Cross-reference structure	For each example, give the class number and list 5 - 7 cross-references (class number and full caption) that *should* be there, followed by (Sched) if they are given in the schedules, (Rel) if they can easily and obviously be located through the Relative Index, and (No) if they are not given either place. Remember that semantic factoring can be used to detect cross-references needed. Use the Relative Index to find the class numbers for the concepts to which cross-references should be made, but do not spend more than 45 min. on this section. Note: A cross-reference "should" be there if it would help the user to know about the classes referred to. Of the cross-references that should be there by this definition, Dewey includes very few. Your task is to supply the missing cross-references, or at least some of them. **Example**: **Civil rights** Class number and full caption: 323 Social sciences > Political science >Civil and political rights **Cross-references** (class number and full caption; *I did not include all levels*) 1 342.085 Soc. sci > Law > Constitutional and administrative law > Jurisdiction over persons > **Rights and activities of individuals** [civil rights law is here] 2 341.48 Soc. sci. > Law > Law of nations > Jurisdiction over physical space; human rights > **Human rights** 3 201.723 Religion > Religious mythology, ... social theology > Attitudes of religions toward social issues > Political affairs > **Civil rights** 4 321.9 Soc. Sci. > Political science > Systems of governments and states > **Authoritarian government** 5 331.133 Soc. sci. > Economics > Labor economics > Labor force and market > Discrimination in employment, labor shortages, unemployment > **Discrimination in employment** **Notes** Many of these classes I found through searching WebDewey for "civil rights". Others I found through coming up with related terms on my own and then searching WebDewey for them. There are many classes that capture how civil or human rights apply to specific groups, some in the schedule, some built, such as 201.723083 Children--civil and human rights--social theology (This is a built class with the caption taken directly from WebDewey; the components of this class are written in reverse order.)

	‣**G School nursing services** Class number and full caption: **Cross-references** (class number and full caption) 1 2 3 4 5 ‣**H Blind students** Class number and full caption: **Cross-references** (class number and full caption) 1 2 3 4 5 ‣**I Elementary education in music composition** Class number and full caption: **Cross-references** (class number and full caption) 1 2 3 4 5

WebDewey Exploration

Introduction	WebDewey allows for A. navigation in the classification and B. for specific search by class number or word. This provides power not available with the printed version. However, the printed version has its own advantages. Compare! You should know your way in Windows (e.g., know how to minimize a window or how to copy and paste text from WebDewey and save some time). You may use WebDewey for any part of the Dewey assignment, but you should also gain some experience with using the printed volumes so that you can compare. You may find the printed volumes in your public or academic library. (Edition 23 is newest, but 22 or 21 will do also.)
To start	You can access WebDewey on OCLC Connexion as follows http://connexion.oclc.org/ Authorization (Name): 100062747 Password: sils2 Click on Logon In the bar on the top, click on ⇨DeweyServices This opens a new browser window. You may want to maximize it.
Note	**The prompt numbers you see may be different from the ones given in the following instructions. The prompt numbers may change from session to session.**

A Navigation-based search of the classification

A1 Walking down (and up) the hierarchy – schedules and tables	
Navigate hierarchy Schedules and Tables	In the bar near the top, under *Main Classes*, click on **300**. The next level down the Dewey hierarchy appears above the bar with the main classes Hint: In this display, you must click on whatever is in blue, sometimes the class text, called **caption**, sometimes the class number. Click your way down the tree: 300 . 370 Education . . 372-374 Specific levels of education [*observe the Note*s] . . . 372 Primary education (Elementary education) . . . . 372.3 - 372.8 Primary education in specific subjects [*observe the notes & other info; note 044 Teaching*] . . . . . 372.3 Knowledge, computer science, library and information sciences, science, technology . . . . . 372.35 *Science and technology . . . . . 372.35|044 Primary level-- science--teaching [*A class built by appending 044*] . . . . . 372.35 [click to get back to this level . . . . . 372.357 *Nature study For 372.357 *Nature study, *observe the notes and other information* In LC Subject Headings, click on Nature study--Study and teaching (Elementary) This brings up a MARC record for that heading: 083 04 the Dewey class number 150 the text of the subject heading ($x = subheading) 450 See from (mostly synonyms) 550 See also from, $wg means the x-ref term is broader **Next, scroll down to the main bar to have a look on the Tables** Explore Table 1 (see the notes), especially T1– 07 several levels down.

.	**A2 The Browse interface**
Browse full hierarchy display	On the top, click the orange **Browse** button Browse *Dewey Numbers (with Captions)* is the default In the box, type 372-374, press Enter A multi-page display of all the classes under that appears The orange symbol at the left of a class means the class is built; it is not a class you would find in the printed schedule. Find 372.357 and click on it. This takes you to the walk-up-and-down hierarchy display Use the browser Back button to get back the Browse screen For another example of a built class, in the Browse display find 372.1262 Standardized tests--elementary education Click on that. You are now back in the walk-up-and-down hierarchy display. Note that 372.1262 Standardized testing is a built class. Click on 372.11-372.18 to see the rule for building the classes under 372.1

B Query-based search of the classification

In the navigation bar on the top click on **Advanced Search**.

In Search you specify
a **starting point**, a word or class number typed in a text box labeled **Search for** and
a **relationship type to follow**, here expressed as a field in which to search, selected from the drop-down box labeled **in**.

	B0 Fields that can be searched
Searchable fields	All Fields (al:) (default) All Dewey (ad:) Dewey Numbers (dd:) Captions (class name or text) (cp:) Relative Index (ri:) Notes (nt:) LCSH (lc:)

	B1 Search for class number
Class number search	In the *In Box*, select *Dewey Numbers* In the *Search for* Box, type 620, press Enter This takes you into the walk-up-and-down hierarchy display Briefly explore this area of the classification

	B2 All Fields search for words
Word search	Query: *computer* and education** (* truncates) In the In box, select All Fields In the text box labeled **for**, paste the query, press [Enter]. click on *372.35 Science and technology* From the notes section you can see why this class was found

.	**B3 All Fields search for words and class numbers**
Word and class number search	Query: *computer* and 37** Get back to the search screen. In the first text box, type *computer** make sure **in** is All Fields (default), In the second text box, type *37** , set **in** to Dewey number and press [Enter]. The results show class numbers not found in the previous search. For example, click on number *6* next to *371.33466 Computer graphics--instructional use* The word *education* does not appear there, so B1 did not find it.

.	**B4 Captions Only search for words**
Word search in Captions	Query: *computer* and education** In the top bar, click on **Advanced Search**. In the first text box, type *computer**, set the **In** to Captions. In the second text box, type *education**, set the **In** to All Fields [Enter]. Examine results. Note that 372.35 is not found this time. Why? Now go Back to the search screen and set the second **in** to Captions, [Enter].

B5 All Fields search for class numbers	
Class number search	Query: *372** In the toolbar on top, click Search. In the first text box, type *372**, make sure **In** is All Fields, make sure the second text box is empty, and press [Enter]. Lots of classes are found. Note: C in this display indicates a *centered heading*. On results page ~4, click on *268.432 Children* to display the full record. Why was this record found? Note: This is not c*hildren in general* but rather *Christian religious education of children* Use the browser Back button to get back to the result list Explore some of the other classes found, such as (on results p. ~11) 649.58 *Reading and related activities*

C Now complete query F from the Query Forms and, optionally, the query "Helicopters"

List **all** classes (or as many as you can do in a reasonable time) where one should look on the shelves (broad class implies subclasses). Note that this is easier on WebDewey as compared to the printed version because you can search and then copy and paste.

Hint: If you paste into a word processor document, it is best to use
Edit > Paste special > Unformatted text

Query F Canals	Do an "All Fields" search for *canal**: Scroll through the entire results list and copy and paste classes relevant to the query into a word processor document. Note: Highlight the class no. and caption, use shortcut key Ctrl-C to copy, Ctrl-V to paste. Did you search for the **concept** *canal (waterway)* or simply for the **word** *canal* in all its meanings? Clearly you are not searching a concept-based descriptor-find index but a word-based index. Click on no. *10* next to *386.244 Freight services* to see its full record. Look at the Relative Index terms to see why it was found? Do a Captions search for *canal**. Look at the difference in results.
Query Helicopters (optional)	Do an All Fields search for *helicopter**. In the result list, click on *87.73352387.73352* (a built number) to see the full record. Scroll down to see the last Relative Index term, *Helicopters - transportation services*; it gives the meaning of the built class. Compare the number to 629.133352 (under 629.133Aircraft types) Click on 387.732-387.733 *Specific types of aircraft* Notice the instructions for building the class number for the classes under it; some of the numbers that can be built are listed in WebDewey.

This ends the exercise. You may want to explore some more on your own or close WebDewey.

Vocabulary: **DDC** Pre-filled

Outline for the analysis of Knowledge Organization Systems

For some items, a section number from Soergel, Organizing information is given in ()

1. Purpose

1.1 **Information system** or type of information system in which to be used

Bibliographic information system. Intended for public and school libraries.

1.2 **Intended for** controlled vocabulary indexing ☉ or query term expansion ☐ (Ch. 12, Introduction)

1.3 **Type of file and search mechanism** for which originally designed

Shelving ☉ Card catalog / printed index ☐ Online system ☐ (Now promoted for Web subject directories)

2. Coverage and designation of concepts. Coverage and format of terms

2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts

Universal — covers all of knowledge. But focus on Western culture, esp. US.

2.2 **Concepts: Specificity**, depth of coverage. (Section16.2.2). Coverage at each level of specificity.

Medium specificity. Would need closer analysis by subject area. Geography table quite specific.

2.3 Are all needed **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)

Some general concepts included in the general tables and the in-schedule tables. Many others not included by themselves but only as components in one or more precombined descriptors. Completeness of explicit and implied facets? Answer would require extensive analysis.

2.4 **Nature of notation** (if none, state that). (Section 15.5.2) *Decimal, highly expressive (with some exceptions).*

2.5 **Terms**: Completeness of coverage (completeness of lead-in vocabulary). Recency of terms

Some lead-in synonyms included in the alphabetical index. How complete? Would need extensive analysis!

2.6 **Form of terms**: Consistency, adherence to common usage. *Terms seem appropriate. Many classes cannot be expressed by a simple term but need a phrase devised by the editor.*

3. Terminological and conceptual analysis and conceptual structure.

3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Fill in 3.1.1 - 3.1.3)

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

For enumerated compound concepts: Sometimes done implicitly in the relative index. For precombined descriptors constructed according to DDC rules: Done by the indexer.

3.1.2 Hierarchical relationships (polyhierarchy) (Shown by arrangement or Broader Term / Narrower Term X-ref)

Monohierarchical. A few additional BT/NT through cross-references. Many hierarchical relationships implied by the relative index (Example: The classes shown under Blind, as seen from the example query formulation).

3.1.3 Associative relationships. (Implied by physical proximity in the arrangement or explicit Related Term X-ref)
Some explicit cross-references

3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).

Many notes throughout the schedules and in the Manual. Mostly usage notes explaining the difference between classes or instructions on how to form new precombined descriptors. A few definitions

3.3 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship? *Not a problem in a classification like DDC.*

4. **Use of precombination in the index language** (concerns both 2 and 3) (14, 15, esp. 15.4)

4.1 To what degree are descriptors precombined?

DDC can be used with a medium to high degree of precombination, depending on how many new precombined descriptors the indexer builds.

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?

Medium degree of enumeration in the schedules, some addl. precombined descriptors in the index.

To what extent can the indexer build additional precombined descriptors?

To a large extent. Libraries differ in their use of this option.

Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to 5) (Section 15.5.2)

Enumerated precombined descriptors have their own independent symbol (which sometimes is constructed using notation components from tables). Combination order is fixed. The components completely determine the place of a precombined descriptor built by the indexer.

5. **Access and display**. **Format of presentation of the vocabulary**

Consider for each format access/retrieval by concepts versus access/retrieval by terms.

Access can be provided through arrangement in a printed document or through a computer search system.

5.1 **Format of printed document** (Fill in 5.1.1- 5.1.3)

5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?
Introduction (v.1), Tables (v.1), Schedules (v.2+3), Relative Index (v.4), Manual (v.5)
Need to go back forth between schedules and manual, otherwise reasonably helpful.

5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)

- through linear arrangement or graphical display (Section15.5.2)

In the tables and schedules.

- through cross-references (Section 14.1)

In the tables and schedules.

- through descriptor-find index (Section 15.5.1)

The relative index combines the functions of an alphabetical index and a descriptor find index of sorts.

How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).
Usually the sequence of classes makes good sense.

5.1.3 Display of terminological relationships (Synonymous Term)

Terminological relationships are displayed only in the relative index, which gives the lead-in term and points to the appropriate class number.

5.2 **Access through computer system**. Navigation. Format of on-line displays

This would be an analysis of Dewey for Windows. Not required here.

Instructions for using the Dewey Decimal Classification

Indexing	Give one and only one class per document; if another class is a strong contender, list it as an alternate and give reasons for selecting the class you chose. (If there is no other class that would fit the book, leave the Alternate class blank.) For each class give the text as a hierarchical chain, starting with the main class, e.g. 388.34|232 Ground transportation > Vehicular transportation > Vehicles > Taxicabs Note: The symbol | setting off components of a built number **is not part of the "official" Dewey number**. Nevertheless, in this assignment you should include the | for your own understanding.
Query formulation	Try to list **all** classes where one should look for relevant documents on the shelves; if there are more than 7 classes, just give a representative sample (enough to demonstrate that you how to find all classes throughout all the DDC main classes). Note: A broad class implies all the narrower classes; no need to list these narrower classes, they can be readily seen from the schedules. The query formulation is the OR combination of all the classes in your list. (AND combinations are out: for shelving, only one class is assigned; while more than one class could be assigned for a classified catalog, DDC is not designed for combination searching.) You may use the print version or Dewey for Windows for documents A - C and queries D - E. Query F, *canals* is part of the Dewey for Windows exercise. If you wish, you may try them in the print version as well for comparison.

Examples of queries in DDC

Query topic: *Blind people*	
Look under the following Dewey classes:	
027.663| 081 61	Libraries for persons with disabilities > Persons with impaired vision (027.663 is given in the Relative Index under blind; this number, built using Table 8, is more specific)
305.908| 161	Occupational and miscellaneous groups > Persons with impaired vision (A number built according to an instruction using Table 7; this number is given in the Relative Index)
362.41	Problems of and services to people with physical disabilities > Persons with impaired vision
371.911	Blind and partially sighted students
614.599 7	Incidence of . . . diseases > Eye diseases
	Any class built with the following numbers from general tables.
T1/ -0871	History and description with respect to kinds of persons > Blind and partially sighted persons
T7/ -081 61	Persons with impaired vision

Query topic: *Teaching of science at all levels*	
372.35	Elementary education > Specific elementary school subjects > Science and technology
5xx.x...x|071x...x	Any built number where
	the first component is a subdivision of 500 *Natural sciences and mathematics* (except 510 *Mathematics* and its subdivisions)
	and the second component is a subdivision of T1/ -071 *Schools and courses* (as found in the schedules or as further built by adding geographical area as instructed)
	Note: The precise form of these class numbers depends further on specific instructions on how to append standard subdivisions to numbers from the schedules. Sometimes one must use 00 or even 000 instead of plain 0.

Sample pages from the Dewey Decimal Classification

First summary: the ten top-level main classes p. ~220 - ~221
Also a comparison of the overall outline of the Dewey Decimal Classification, the Library of Congress Classification, and the Yahoo Classification

Second summary: The 110 classes at the top level and one level below p. ~222

Sample pages from the **third summary** p. ~223 - ~224
000 Computer science, information, & general works
300 Social sciences

Sample pages from the **classification schedules** p. ~225 - ~ 234
and from the **Relative Index** (alphabetical index)

Dewey Decimal Classification

Edition 23

Summaries

Full headings from v. 2 and 3, with small additions from OCLC's Web site

First Summary
The Ten Main Classes

Tables (auxiliary descriptors)

0	**Computer science, information & general works**
100	**Philosophy & psychology**
200	**Religion**
300	**Social sciences**
400	**Language**
500	**Science**
600	**Technology**
700	**Arts & recreation**
800	**Literature**
900	**History & geography**

Dewey Decimal	Library of Congress	Yahoo
000 Computers, information, & general reference 000 Computers, Internet, & systems 010 Bibliography 020 Library and information sci. 070 News media	A General works QA Math, incl. computer science Z Bibliography and library science	 Computers & Internet Reference News & Media
100 Philosophy & psychology	B-BJ Philosophy. Psychology.	A & H > Humanities > Philosophy
200 Religion	BL-BX Religion	Society and Culture > Religion and Spirituality
300 Social sciences 330 Econ, 380 Commerce 320 Pol. sci., 350 Pub. admin 340 Law 370 Education	H Social sciences HB-HJ Economics J Political science K Law L Education	Social Science Society & Culture Business & Economy Government Government > Law Education
400 Language	P-PM Language	Social Science > Linguistics and Human Languages
500 Natural sciences & math.	Q Science	Science (parts of)
600 Technology (Applied sciences) 610 Medical sciences and medicine 630 Agriculture Most of 600	 R Medicine S Agriculture T Technology	 Health Science > Agriculture Science (parts of)
700 Arts & recreation	M Music and books on music N Fine arts GV Recreation, leisure	Arts & Humanities Entertainment Recreation & Sports
800 Literature & rhetoric	PN-PZ Literature	Arts & Humanities > Humanities > Literature
900 Geography & history	C-F History, G Geography	A & H > Humanities > History Regional
	U Military science V Naval science	Government > Military

Dewey, Library of Congress and Yahoo classification compared

Note: Comparison is easier at lower levels of the hierarchy since different schemes may agree on specific narrower fields but group them differently at the top level of the hierarchy

Second Summary. *The Hundred Divisions*

Tables

Table 1. **Standard Subdivisions** (p. 3)
Table 2. **Geographical Areas, Historical Periods, Persons** (p. 34)
Table 3. **Subdivisions f. the Arts, for Individual Literatures, for Specific Literary Forms** (p. 405)
Table 4. **Subdivisions of Individual Languages and Language Families** (p. 437)
Table 5. **Ethnic and National Groups** (p. 444)
Table 6. **Languages** (p. 464)

.

000 Computer sci., info. & gen. works
- 000 Computer science, knowledge & systems
- 010 Bibliographies
- 020 Library & information sciences
- 030 Encyclopedias & books of facts
- 040 [Unassigned]
- 050 Magazines, journals & serials
- 060 Associations, organizations & museums
- 070 News media, journalism & publishing
- 080 Quotations
- 090 Manuscripts & rare books

100 Philosophy and Psychology
- 100 Philosophy
- 110 Metaphysics
- 120 Epistemology
- 130 Parapsychology & occultism
- 140 Philosophical schools of thought
- 150 Psychology
- 160 Logic
- 170 Ethics (moral philosophy)
- 180 Ancient, medieval, Oriental philosophy
- 190 Modern Western philosophy

200 Religion
- 210 Philosophy & theory of religion
- 220 Bible
- 230 Christianity Christian theology
- 240 Christian moral & devotional theology
- 250 Christian orders & local church
- 260 Social & ecclesiastical theology
- 270 History of Christianity & Christian church
- 280 Christian denominations & sects
- 290 Comparative religion & other religions

300 Social sciences
- 301 Sociology and anthropology
- 310 Collections of general statistics
- 320 Political science
- 330 Economics
- 340 Law
- 350 Public administration & military science
- 360 Social problems & services; association
- 370 Education
- 380 Commerce, communications, transportation
- 390 Customs, etiquette, folklore

400 Language
- 410 Linguistics
- 420 English & Old English
- 430 Germanic languages German
- 440 Romance languages French
- 450 Italian, Romanian, Rhaeto-Romanic
- 460 Spanish & Portuguese languages
- 470 Italic languages Latin
- 480 Hellenic languages Classical Greek
- 490 Other languages

500 Natural sciences & mathematics
- 510 Mathematics
- 520 Astronomy & allied sciences
- 530 Physics
- 540 Chemistry & allied sciences
- 550 Earth sciences
- 560 Paleontology Paleozoology
- 570 Life sciences Biology
- 580 Plants
- 590 Animals

600 Technology (Applied sciences)
- 601-9 General technology
- 610 Medical sciences Medicine
- 620 Engineering & allied operations
- 630 Agriculture & related technologies
- 640 Home economics & family living
- 650 Management & auxiliary services
- 660 Chemical engineering
- 670 Manufacturing
- 680 Manufacture for specific uses
- 690 Buildings

700 The Arts Fine and decorative arts
- 710 Civic & landscape art
- 720 Architecture
- 730 Plastic arts Sculpture
- 740 Drawing & decorative arts
- 750 Painting & paintings
- 760 Graphic arts Printmaking & prints
- 770 Photography & photographs
- 780 Music
- 790 Recreational & performing arts

800 Literature & rhetoric
- 810 American literature in English
- 820 English & Old English literatures
- 830 Literatures of Germanic languages
- 840 Literatures of Romance languages
- 850 Italian, Romanian, Rhaeto-Romanic
- 860 Spanish & Portuguese literatures
- 870 Italic literatures Latin
- 880 Hellenic literatures Classical Greek
- 890 Literatures of other languages

900 Geography & history
- 909 World History
- 910 Geography & travel
- 920 Biography, genealogy, insignia
- 930 History of the ancient world to ca. 499
- 940 General history of Europe
- 950 General history of Asia Far East
- 960 General history of Africa
- 970 General history of North America
- 980 General history of South America
- 990 General history of other areas

DDC sample pages ending even

gold **Assignment 13.2Yahoo** ***Assigned: Apr. 13***
Due: Apr. 20

Yahoo classification (one option for Assignment 13.2)

Much information inherited from Assignments 13.1-4 (page ~157 - 158)

Learning objectives	Inherited
Materials Inherited, specifics added	1 **The Yahoo classification itself as available at** https://web.archive.org/web/*/dir.yahoo.com Click on 2013 in the time line bar, then on Dec. 31. **Plan to be online to Yahoo while doing the worksheet**, even though some of it needs just the attached materials. You need the Yahoo website for indexing and query formulation. If you prepare your worksheet answers on a word processor, you can copy and paste examples from Yahoo. 2 **Summaries and excerpts from the Yahoo classification** p. ~261 - 290
Readings	No added readings
Tasks Inherited, repeated for convenience	**1 Guided exploration (worksheet)** A good part of the worksheet will be done in Lecture 11.1. During the lecture, fill in the worksheet answers. After the lecture complete the remainder of the worksheet. **2 Indexing and query formulation** **3 Summary analysis**. Read and contemplate the pre-filled *Outline for the Analysis of Knowledge Organization Systems* (purple)
Deliverables Repeated	1 The worksheet answers 2 The Document Indexing Forms and the Query Forms, space for Yahoo filled in
Time	Time: 6 hours (first half - 3.5 hours; second half - 2.5 hours)

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Yahoo Worksheet Name:

Starts on next page

60 min.	**1. General layout of the classification. Formal structure**
General layout	• Look at the top level on the Yahoo Directory home page and click down to *Education*. (http://dir.yahoo.com/) • Look at Figs. 1 and 2 and skim Fig. 3. the Yahoo classific. second summary. • Skim through Figure 4, the excerpt from the Yahoo classification; note the many places in which *education* and *transportation* concepts appear.
Context dependency of terms	In Yahoo, as in the Library of Congress Classification, the meaning of a category (class) is always defined by its total context. Thus in Education . K-12 . . Academic Competitions . . . Debate . . . . Clubs, Teams, and Societies The last category means *Clubs, Teams, and Societies* that engage in *Debates* staged as *Academic Competitions* for students in the *K-12* level of *Education* On the top of the screen, the active category is shown with its **full caption**: Directory > Education > K-12 > Academic Competitions > Debate > **Clubs, Teams, and Societies**
Precombination	What is the degree of precombination in Yahoo?
Search for categories	A search for one or more words in Yahoo returns (1) categories whose caption contains the word(s) and (2) individual sites. So Yahoo functions as a kind of **descriptor find index**. But the search is based on the **words** in the full caption; while these words often reflect the conceptual components of the category, there are many cases where they do so only incompletely. See the facing page for an example. A search for *vehicles* does not *ships* or *aircraft*. Some good searches to try to explore the structure of the Yahoo classification. You can restrict your search to a category.

CDs, Records, and Tapes Transportation Teaching and Learning Aids	Mexican Americans Bridge (a homonym) Humor

Example: Search for categories (descriptor find index): **Words vs concepts**

Search 1: law education Canada (implied AND)	**Search 2: law school Canada**
Yahoo! Category Matches (1 - 4 of 4)	Yahoo! Category Matches (1 - 2 of 2)
Regional > Countries > Canada > Provinces and Territories > Saskatchewan > Cities > Saskatoon > **Education** > College and University > University of Saskatchewan > Departments and Programs > College of **Law** [Note: *College* rather than *School*]	
Regional > Countries > Canada > Provinces and Territories > Ontario > Counties and Regions > Frontenac > Cities > Kingston > **Education** > College and University > Queen's University > Departments and Programs > School of **Law**	Regional > Countries > Canada > Provinces and Territories > Ontario > Counties and Regions > Frontenac > Cities > Kingston > Education > College and University > Queen's University > Departments and Programs > **School** of **Law**
Regional > Countries > Canada > Provinces and Territories > British Columbia > Counties and Regions > Capital > Cities > Victoria > **Education** > College and University > University of Victoria > Departments and Programs > **Law** [Note: Simply a *department*]	
Regional > Countries > Canada > Provinces and Territories > Alberta > Counties and Districts > Edmonton > Cities > Edmonton > **Education** > College and University > University of Alberta > Departments and Programs > **Law** [Note: Simply a *department*]	
	Regional > Countries > Canada > Government > **Law** > **Law Schools**

In the Yahoo categories, all Search 1 retrievals happen to be also relevant for Search 2. (There could be one or more categories on *law education in Canada* generally, but there are none.). All Search 2 retrievals are by definition relevant for Search 1.

When running the same searches with *US*, Search 1 finds 62 categories as follows

44 have both *law* and *school* and are thus also found by Search 2
15 have *law* and *college* (These are relevant for Search 2 but not found by it)
3 have *law* and some other term, such as *center*

Search 2 finds 44 categories; they all happen to have *education*, and thus were found in Search 1 as well.

Searching for *law school* without restrictions would find categories not found by *law education* (such as Directory > Government > Law > Law Schools; this category has under it categories that say *College of Law*) and vice versa (such as Directory > Government > Law > Continuing Legal Education).

Note: Searching for *United States* finds no categories; you need to search for *US*.

1. General layout of the classification. Formal structure. Continued	
The Yahoo "multi-tree"	As you know from Chapters 14 and 15, a compound concept fits in many places in a hierarchy. Put differently, in the Yahoo subject directory, a precombined category should be reachable thorough multiple paths down. How does Yahoo handle this problem? Probe the following example: Click down to Directory > Education > K-12 **Schools** Click on Christian@ Try Directory > Education > K-12 > By Region > Countries > France > Cities Probe some on your own Summarize your observations. What does the @ mean? ▸**Answer A**
Nature of subordinate categories	In Example 1 on the facing page, why are the subordinate categories in the first group narrower than *Canada*, why the subordinate categories in the second group? What is the difference? (Hint: Remember *concepts narrower due to autonomous subdivision* and *concepts narrower due to combination*, p. 264 and 270 in Organizing Information) In Example 2 (which is not quite as clear cut), **mark with T** the subordinate categories that are transportation-specific **mark with G** the subordinate categories that are the broad concept of *transportation* l combined with some general concept not specific to the transportation domain. Note your observations ▸**Answer B**

Nature of subordinate categories. **Example 1**

Directory > Regional > Countries >
Canada
. Cities (1697)
. Provinces and Territories (89205
. . Alberta (7683)
. . British Columbia (19882)
. . Manitoba (3680)
. . .

. Arts and Humanities (2425)
. Business and Economy (20557)
. Computers and Internet (333)
. Country Guides (21)
. Education (1236)
. . .

Nature of subordinate categories. **Example 2**

Directory > Business and Economy >
Transportation
. Auto-Free Transportation (23)
. Aviation (513)
. Buses (26)
. Companies@
. Employment (5)
. Government Agencies (62)
. Highways and Roads (127)
. History (5)
. Institutes (44)
. Intelligent Transportation Systems (25)
. Libraries (7)
. Mass Transit (59)
. Web Directories (3)

Figure W-2. Nature of subordinate categories

Directory > Education

Yahoo! Education - K-12 Schools - Colleges - Online Degrees - Reference

CATEGORIES

Top Categories

Adult and Continuing Education (284)
Browse by Region (168)
By Culture or Group (317)
By Subject (1012)
Higher Education (17081) NEW!
K-12 (56360)

Additional Categories

Academic Competitions (99)
Bibliographies (5)
Bilingual (18)
Business to Business@
Career and Vocational (311)
Chats and Forums (22)
Conferences (35)
Correctional@
Disabilities@
Distance Learning (658)
Early Childhood Education (96)
Employment@
Equity (23)
Financial Aid (407)
Government Agencies (76)
Graduation (59)
History (17)
Instructional Technology (256)
Journals (40)
Legislation (11)
Literacy (21)
News and Media (77)
Organizations (2772)
Policy (54)
Programs (342)
Reform (87)
Shopping and Services@
Special Education (175)
Standards and Testing (140)
Statistics (6)
Teaching (75)
Theory and Methods (660)
Web Directories (4)

Figure W-2. Yahoo Education

The remaining questions deal with content aspects of the Yahoo classification

30 min.	**2. Develop a meaningful arrangement of the categories one level below *Education***
Meaningful arrangement	You can use the meaningful arrangement of the subcategories of *Health* (Figure 2b) as a general model. You are not expected to completely work out the solution for *Education*; just listing some facets with sample terms under them would be an acceptable answer. ▸**Answer C**

Dewey Decimal	Library of Congress	Yahoo
000 Computers, information, & general reference 000 Computers, Internet, & systems 010 Bibliography 020 Library and information sci. 070 News media	A General works QA Math, incl. computer science Z Bibliography and library science	 Computers & Internet Reference News & Media
100 Philosophy & psychology	B-BJ Philosophy. Psychology.	A & H > Humanities > Philosophy
200 Religion	BL-BX Religion	Society and Culture > Religion and Spirituality
300 Social sciences 330 Econ, 380 Commerce 320 Pol. sci., 350 Pub. admin 340 Law 370 Education	H Social sciences HB-HJ Economics J Political science K Law L Education	Social Science Society & Culture Business & Economy Government Government > Law Education
400 Language	P-PM Language	Social Science > Linguistics and Human Languages
500 Natural sciences & math.	Q Science	Science (parts of)
600 Technology (Applied sciences) 610 Medical sciences and medicine 630 Agriculture Most of 600	 R Medicine S Agriculture T Technology	 Health Science > Agriculture Science (parts of)
700 Arts & recreation	M Music and books on music N Fine arts GV Recreation, leisure	Arts & Humanities Entertainment Recreation & Sports
800 Literature & rhetoric	PN-PZ Literature	Arts & Humanities > Humanities > Literature
900 Geography & history	C-F History, G Geography	A & H > Humanities > History Regional
	U Military science V Naval science	Government > Military

Figure W-3. Dewey, Library of Congress and Yahoo classification compared

15 min.	**3. Compare Yahoo with Dewey and Library of Congress Classification**
Comparison of Yahoo with DDC and LCC	Look over Figure W-3 on the facing page and get a sense of how different topics are treated in these classifications. Why is *literature* given more prominence in DDC and LCC than in Yahoo? Can you find a general principle that would explain the differences in emphasis in DDC and LCC on the one hand and the Yahoo Classification on the other? Note: Comparison is easier at lower levels of the hierarchy since different schemes may agree on specific narrower fields but group them differently at the top level of the hierarchy. ▸**Answer D**

Yahoo Directory Home	Subdivision of states	Subdivision of cities
Regional	**Massachusetts Locations**	
	Metropolitan Areas	
	Counties and Regions	
	Cities	
(Yellow Pages) (Maps)		**Find Businesses** Yellow Pages, Maps Driving Dir
		City Guides
(Classifieds)		**Classifieds**
	Real Estate	Real Estate (category, general) Local Real Estate (listings search)
	Employment	Employment (category, general) Local Jobs (job listings search)
		Online Community
Reference		
Computers & Internet	Computers & Internet	
News & Media	News & Media	News & Media
Entertainment	Entertainment	Entertainment & Arts
Arts & Humanities	Arts & Humanities	(See Entertainment & Arts below)
Education	Education	Education
Recreation & Sports	Recreation & Sports Travel & Transportation	Recreation & Sports Travel & Transportation
Business & Economy (Auctions) (Shopping)	Business & Economy	Business & Shopping
Government		
Society & Culture	Community & Culture	Community
Social Science	Social Science	
Health	Health	Health
Science	Science	

Figure W-4. Yahoo Directory Home compared with *State* subdivision and *City* subdivision

My arrangement (compare Figure 1b). The items in () in column 1 are not categories in Yahoo Directory Home, but links under the search box; there are many other such links. Most of the subdivisions under states and cities are accessed through a drop-down box titled State/Local Web Sites.

15 min.	**4. Compare Yahoo Directory Home, *State* subdivision and *City* subdivision**
Home, City, and State subdivisions	Look over Figure W-4 on the facing page and briefly describe the differences you see between Yahoo Home and the *State* subdivision and the *State* subdivision and the *City* subdivision. ▸**Answer E**

30 min.	**5. Examine some principles Yahoo uses when designing subdivisions**
Principles of subdivision	Figure W-5 (starting on the facing page) gives a number of examples of category subdivisions. Where there are two groups, can you tell the difference between them? Write your observations on any two of the examples or state a general principle. ▸**Answer F**

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis

Arranged by ease of analysis.

Figure W-5a

Directory > Reference >
Libraries

Categories (divided into two groups)

Conferences (9)
Countries (27)
History (6)
Librarians (29)
Library and Information Science (306)
Organizations (59)
Professional Resources (112)
Serials (6)
Web Directories (19)

Academic Libraries (451)
Archives@
Arts Libraries@
Business Libraries@
Commercial Library Services@
Dance Libraries@
Digital Libraries (74)
Education Libraries@
Environmental Libraries@
Government Documents@
Health Libraries@
Intellectual Property Libraries@
Internet Filtering in Libraries@
Law Libraries@
Lesbian, Gay and Bisexual@
Libraries for the Blind@
Literary Libraries@
Literature@
Map Libraries@
Masonic Libraries@
Military Libraries@
Music Libraries@
National Libraries (33)
Native American Libraries@
Performing Arts Libraries@
Philatelic Libraries@
Physics Libraries@
Presidential Libraries@
Prison Libraries@
Public Libraries (3494)
Religious Libraries@
School Libraries (35)
Science Libraries@
Social Science Libraries@
Special Collections (41)
Sports Libraries@
Theological Libraries@
Transportation Libraries@
U.S. State Libraries (49)

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis, cont.

Figure W-5b

Directory >
News and Media

Categories (divided into two groups)

By Region (21222)	Magazines (3835)
Columns and Columnists (286)	Newspapers (8419)
Commercial Services@	Photojournalism@
Content Ratings@	Radio (9418)
Industry Information (824)	Television (15900)
Internet Broadcasts (400)	Web Directories (100)
Journals (33)	

Arts and Humanities@	Law@
Automotive@	Outdoors@
Business (133)	Personalized News (14)
College and University (844)	Philanthropy@
Computers and Internet@	Politics@
Crime@	Real Estate@
Cultures and Groups (15)	Religion@
Disabilities@	Science@
Education@	Sexuality@
Entertainment@	Sports@
Environment and Nature@	Technology (69)
Good News (9)	Traffic and Road Conditions@
Government@	Transportation@
Health@	Travel@
History@	Weather (1087)
Home and Garden@	Weird News (20)
Humor (219)	World (72)

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis, cont.

Figure W-5c

Directory > Entertainment > **Humor**

Categories (divided into two groups)

Archives (122)
Chats and Forums (34)
Columns and Columnists (84)
Comedy@
Comic Strips@
Companies@
Jokes (371)
Lists (65)
News and Media@
Poetry@
Quizzes and Tests@
Quotations@
Stories (21)
Web Directories (20)

Advertising (41)
Advice (127)
Animals (176)
Begging (40)
Bitterness (38)
Bizarre (248)
Boredom (4)
Bubblewrap (4)
Cars (40)
Clean Humor (12)
Codes (8)
Computers and Internet (631)
Cultures and Groups (177)
Distorted Pictures (14)
Drugs and Addictions (16)
Duct Tape (11)
Education (43)
Fights (9)
Food and Drink (139)
Furniture (5)
Gender Wars (37)
Hair (27)
Health and Medicine (22)
Holidays and Observances (109)
Horoscopes (19)
Job Humor (90)
Military (3)
Movies and Film (62)
Murphy's Laws (6)
Music (93)
Names (25)
Parenting (20)
Parody (350)
People (19)
Philosophy (18)
Politics (16)
Procrastination (13)
Rants (75)
Religion (216)
Science (109)
Science Fiction and Fantasy (235)
Sex (130)
Sports (11)
Stupidity (70)
Tasteless (370)
Traffic Cones (2)
Useless Pages (123)
Warning Labels (3)
Wedding and Marriage (13)

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis, cont.

Figure W-5d

Directory > Entertainment >
Comics and Animation

Categories (not divided into groups)

Animation (1821)
Artists@
Characters (163)
Chats and Forums (18)
Comic Books (1781)
Comic Strips (1023)
Conventions (22)
Cultures and Groups (21)
Editorial Cartoons (110)
Graphic Novels (15)
Magazines (6)
Organizations (22)
People (6)
Shopping and Services@
Small Press Comics (15)
Web Directories (8)

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis, cont.

Figure W-5e

Directory > Government >
Law

Categories (divided into two groups)

Alternative Dispute Resolution (38)
Attorneys General@
Booksellers@
Cases (287)
Continuing Legal Education (24)
Countries (43)
District Attorneys@
Employment Resources (48)
Events (3)
Firms and Services@
History (27)
Journals (101)
Jury Duty (15)
Law Enforcement@
Law Schools (296)
Lawyer Jokes@
Legal Ethics (4)
Legal Research (98)
News and Media (49)
Organizations (340)
Self-Help (15)
Software Companies@
U.S. Judiciary and Supreme Court@
U.S. States (50)
Web Directories (40)

Administrative (9)
Business (65)
Constitutional (175)
Consumer (25)
Criminal Justice (110)
Disability (29)
Dog Breed Specific@
Elder (10)
Employment (24)
Entertainment (9)
Environmental (72)
Estate and Probate (10)
Federal (16)
Health (12)
Immigration and Naturalization (106)
Indigenous Peoples@
Intellectual Property (167)
International (48)
Lesbian, Gay and Bisexual@
Privacy (35)
Property (70)
Sexuality@
Tax (54)
Technology (104)
Trade@
Women's Resources@
Usenet (9)

Figure W-5. Subdivisions of selected Yahoo categories for comparison and analysis, cont.

Figure W-5f

Directory > Government >
Politics

Categories (not divided into groups, except for the fairly standard By Region)

By Region (7647)
U.S. Politics@

Activism Resources (47)
Chats and Forums (33)
Civic Participation@
Elections (3151)
General Information (3)
Humor@
News and Media (24)
Organizations (78)
Parties (134)
Political Consulting@
Political Issues (46)
Political Opinion (218)
Political Science@
Political Theory@
Regional Conflicts (33)
Web Directories (8)

60 min.	**6. Overall facet analysis of the Yahoo classification**
Facets in Yahoo	Identify entity types / facets that occur throughout the Yahoo classification, preferably with some frequently occurring concepts under each. You can also mention concepts that occur as components in many places but that you cannot assign to a facet. Your listing would be the beginning of a faceted *core classification* for Yahoo (see Organizing Information, p. 299 and Section 15.6, p. 322-323). It would be interesting to find out how many elemental concepts are in this core classification and how many precombined categories Yahoo has in its *extended classification*.. **Answer G**

Vocabulary: **Yahoo** Already filled in

Outline for the analysis of Knowledge Organization Systems

For some items, a section number from Soergel, Organizing information is given in ()

1. Purpose

1.1 **Information system** or type of information system in which to be used

Bibliographic information system: Organize Web pages

1.2 **Intended for** controlled vocabulary indexing ☉ or query term expansion ☐ (Ch. 12, Introduction)

1.3 **Type of file and search mechanism** for which originally designed

Shelving ☐ Card catalog / printed index ☐ Online system ☉ (*Web subject directories: Similar to shelving, but multiple locations for each class and multiple entries for each page*)

2. Coverage and designation of concepts. Coverage and format of terms

2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts

Universal — covers all of knowledge. But focus on Western culture, esp. US, on topics in HTML Web pages.,

2.2 **Concepts: Specificity**, depth of coverage. (Section16.2.2). Coverage at each level of specificity.

Medium specificity. Would need closer analysis by subject area. Geographic names quite specific.

2.3 Are all needed **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)

Answer would require extensive analysis. Many general concepts are visible as one looks at subdivisions that repeat in many places, but no list of these. Bound to English language; if there is no English term for a general concept, that concept is unlikely to shoe up explicitly in the Yahoo Classification.

2.4 **Nature of notation** (if none, state that). (Section 15.5.2) *None.*

2.5 **Terms**: Completeness of coverage (completeness of lead-in vocabulary). Recency of terms

Only descriptors, no lead-in terms. Many terms are quite recent (very fast update).

2.6 **Form of terms**: Consistency, adherence to common usage. *Terms seem appropriate. Most terms appear to be taken directly from generally used language, except for a few phrases like Arts and Humanities*.

3. Terminological and conceptual analysis and conceptual structure.

3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Fill in 3.1.1 - 3.1.3)

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

Category names are formed by stringing together terms that designate the category's conceptual components; to that extent, compound concepts are expressed through elemental concepts. However, compounds expressed through an accepted term in English, such as Ship, are not expressed through their components.

3.1.2 Hierarchical relationships (polyhierarchy) (Shown by arrangement or Broader Term / Narrower Term X-ref)

Polyhierarchical; a category has a home place but may appear in many places in the hierarchy. From any place one get to the home place by a click, but the other places where the category appears are not indicated

3.1.3 Associative relationships. (Implied by physical proximity in the arrangement or explicit Related Term X-ref)
None by the format. However, some of the hierarchical relationships should in fact be associative.

3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).

No definitions.

3.3 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship?

Yahoo does not attempt to cover terminology beyond the category names.

4. **Use of precombination in the index language** (concerns both 2 and 3) (14, 15, esp. 15.4)

4.1 To what degree are descriptors precombined?

Yahoo categories are highly to very highly precombined.

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?

Precombined descriptors are enumerated in the Yahoo directory. It is not known whether Yahoo indexers have schedules of just the elemental concepts to index from.

To what extent can the indexer build additional precombined descriptors?

Probably new categories built from existing components are added all the time either by indexers or by an editor based on indexer suggestions.

Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to 5) (Section 15.5.2)

By a string of symbols, the terms for the individual components. Exception: Words/terms like Ship that designate a compound concept. Combination order is free, with some apparent rules. The components completely determine the place of a precombined descriptor built by the indexer.

5. **Access and display**. **Format of presentation of the vocabulary**

Consider for each format access/retrieval by concepts versus access/retrieval by terms.

Access can be provided through arrangement in a printed document or through a computer search system.

5.1 **Format of printed document** (Fill in 5.1.1- 5.1.3) *No print version. Comments here refer to online display.*

5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?

A menu tree, walking down one level at a time.

5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)

- through linear arrangement or graphical display (Section15.5.2)

In the subject directory "multi-tree", in which each descriptor (category) can appear in multiple places

- through cross-references (Section 14.1)

No cross-references, other than a category appearing in multiple places.

- through descriptor-find index (Section 15.5.1)

The search function provides a descriptor find index of sorts.

How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).
The sequence of categories at each level is usually strictly alphabetical, sometimes divided into groups based on meaningful criteria.

5.1.3 Display of terminological relationships (Synonymous Term)

Terminological relationships are not included..

5.2 **Access through computer system**. Navigation. Format of on-line displays

Described in 5.1.

Instructions for using the Yahoo Classification

Indexing	Give up to three categories per document. Yahoo does assign multiple categories to a document since a subject directory does not have the one-place-only constraints imposed by the physical arrangement of documents. Still only very important categories should be assigned (high-threshold, low-exhaustivity indexing). (I do not know the rules for number of categories that is given to Yahoo indexers.) Use the most specific category in each case. Give the categories in the format generally accepted on the Web (you can omit Directory): Directory > Education > K-12 > Schools > Elementary Schools Browse through the subject directory or use search to identify the categories under which a document should be found and under which it should therefore be indexed.
Query formulation	Try to list **all** categories where one should look for relevant documents; if there are more than 10 categories, just give a representative sample (enough to demonstrate that you know how to find all categories throughout the Yahoo classification). Note: A broad category implies all the narrower categories; no need to list these narrower categories, they can be readily seen from the Yahoo multi-tree. The query formulation is the OR combination of all the categories in your list. AND combinations of categories would run counter to the subject directory approach to searching; whether this approach makes best use of computer capabilities is a different question. You can formulate each query in terms of elemental concepts and than use these to find categories (see Worksheet, Task 6).

Yahoo summaries and excerpts

Figure

1 **Yahoo Home (first summary): top level classes** (called *categories* in Yahoo) in the original Yahoo alphabetical arrangement and in a revised meaningful arrangement. p. ~262

2 **First-level breakdown of *Health*** in the original Yahoo alphabetical arrangement and in a revised meaningful arrangement. p. ~264

3 **Second summary** (first two levels of the hierarchy). p. ~266 - ~269

4 **Excerpts from the Yahoo classification** designed to illustrate the structure of the classification, particularly its treatment of *Education* and *Transportation*. p. ~ 271 - ~290

Arts & Humanities Literature, Photography ...	**News & Media** Full Coverage, Newspapers, TV...
Business & Economy B2B, Finance, Shopping, Jobs ...	**Recreation & Sports** Sports, Travel, Autos, Outdoors ...
Computers & Internet Internet, WWW, Software, Games ...	**Reference** Libraries, Dictionaries, Quotations ...
Education College and University, K-12 ...	**Regional** Countries, Regions, US States ...
Entertainment Cool Links, Movies, Humor, Music ...	**Science** Animals, Astronomy, Engineering ...
Government Elections, Military, Law, Taxes ...	**Social Science** Archaeology, Economics, Languages ...
Health Medicine, Diseases, Drugs, Fitness ...	**Society & Culture** People, Environment, Religion ...

Figure 1a. **Yahoo classification. Directory Home** (first summary)

Reference and General Interest	Subjects
Reference Libraries, Dictionaries, Quotations ...	**Science** Animals, Astronomy, Engineering ... **Health** Medicine, Diseases, Drugs, Fitness ...
Computers & Internet Internet, WWW, Software, Games ...	**Social Science** Archaeology, Economics, Languages ... **Society & Culture** People, Environment, Religion ... **Government** Elections, Military, Law, Taxes ... **Business & Economy** B2B, Finance, Shopping, Jobs ...
News & Media Full Coverage, Newspapers, TV... **Entertainment** Movies, Music, Humor, Cool Links ... **Recreation & Sports** Sports, Travel, Autos, Outdoors...	**Education** College and University, K-12 ... **Arts & Humanities** Literature, Photography ...
Regional Countries, Regions, US States ...	

Figure 1b. **Yahoo Classification. Directory Home. Meaningful arrangement**

Directory > Health

Categories

Alternative Medicine (480) Business to Business@ Chats and Forums (52) Children's Health (153) Conferences (19) Death and Dying@ Dentistry@ Disabilities@ Diseases and Conditions (7392) Education (39) Emergency Services (236) Employment (108) Environmental Health (194) First Aid (14) Fitness (166) General Health (81) Health Administration (65) Health Care (356) Health Sciences (26) Hospitals and Medical Centers (38) Institutes (34) Law@ Long Term Care (116) Medicine (4955)	Men's Health (30) Mental Health (682) Midwifery (60) News and Media (201) Nursing (431) Nutrition (207) Organizations (21) Pet Health@ Pharmacy (1096) Procedures and Therapies (292) Public Health and Safety (740) Reference (93) Reproductive Health (659) Senior Health (79) Sexuality@ Shopping and Services@ Teen Health (13) Traditional Medicine (179) Travel Health and Medicine (16) Web Directories (50) Weight Issues (77) Women's Health (153) Workplace (6

Figure 2a. **Yahoo classification. Health.**

Directory > Health

Categories

Reference
. Reference
. Web Directories
. Chats and Forums
. News and Media

Health Sciences Fields
. Health Sciences
. Medicine
. Dentistry@
. Nursing
. Midwifery
. Pharmacy
. Traditional Medicine
. Alternative Medicine

Individual health condition
. Diseases and Conditions
. Disabilities@
. Fitness
. Nutrition
. Weight Issues
. Reproductive Health
. Sexuality@
. Death and Dying@
. Mental Health

Procedures and Therapies

Health by place
. General Health
. Public Health and Safety
. Environmental Health
. Workplace
. Travel Health and Medicine

Health by population group
. **Human Health**
. . **Human Health by Age**
. . . Children's Health
. . . Teen Health
. . . Senior Health
. . **Human Health by Gender**
. . . Women's Health
. . . Men's Health
. **Animal Health**
. . Pet Health@

Health Care
. Emergency Services
. First Aid
. Long Term Care

Health care organization
. Hospitals and Medical Centers
. Institutes
. Organizations
. Conferences
. Health Administration
. Shopping and Services@
. Business to Business@
. Law@
. Education
. Employment

Figure 2b. **Yahoo classification. Health. Meaningful arrangement**.

Figure 3. Yahoo classification second summary

Arts & Humanities

SN Literature, Photography . . .

. By Region (131)

. Art History (742)
. Artists (3474)
. Arts Therapy@
. Awards (16)
. Booksellers@
. Censorship (17)
. Chats and Forums (45)
. Companies@
. Crafts (796)
. Criticism and Theory (30)
. Cultural Policy@
. Cultures and Groups (483)
. Design Arts (5177)
. Education (631)
. Employment (44)
. Events (198)
. Humanities (45830)
. Institutes (38)
. Museums, Galleries, & Cntrs (1016)
. News and Media (260)
. Organizations (360)
. Performing Arts (6065)
. Reference (35)
. Thematic (456)
. Visual Arts (12134)
. Web Directories

Business & Economy

SN B2B, Finance, Shopping, Jobs. . .

. Business to Business (268905)
. Shopping and Services (378101)

. Business Libraries (23)
. Business Schools@
. Chats and Forums (24)
. Classifieds (3632)
. Consortia (42)
. Consumer Advocacy and Information@
. Conventions and Conferences (38)
. Cooperatives (24)
. Directories (347)
. Economics@
. Education (809)
. Electronic Commerce (215)
. Employment and Work (1742)
. Ethics and Responsibility (46)
. Finance and Investment (1804)
. Global Economy (287)
. History (20)
. Intellectual Property@
. Labor (725)
. Law@
. Magazines (130)
. Management Science (203)
. Marketing and Advertising (350)
. News and Media@
. Organizations (11880)
. Quality Standards@
. Real Estate (391)
. Small Business Information (299)
. Statistics and Indicators (5)
. Taxes@
. Television@
. Trade (422)
. Transportation (2094)

Computers & Internet

SN Internet, WWW, Softw., Games . . .

. Business to Business@
. Shopping and Services@

. Art@
. Bibliographies (6)
. Communications & Netw. (1128)
. Computer Science@
. Contests (26)
. Conventions and Conferences@
. Countries, Cultures, & Groups (38)
. Cyberculture@
. Data Formats (380)
. Desktop Customization@
. Desktop Publishing (53)
. Dictionaries (32)
. Employment@
. Ethics (18)
. Games@
. Graphics (308)
. Hardware (2292)
. History (85)
. Humor@
. Industry Information@
. Internet (5999)
. Magazines@
. Mobile Computing (64)
. Multimedia (673)
. Music@
. News and Media (203)
. Operating Systems@
. Organizations (93)
. People (119)
. Personal Computers@
. Product Reviews (2974)
. Programming Languages (1515)
. Science and Technology Policy@
. Security and Encryption (589)
. Semiconductors@
. Software (6133)
. Standards (45)
. Supercomputing and Parallel Computing@
. Technical Guides and Support (45)
. Telecommunications@
. Training@
. User Groups@
. Web Directories (14)
. World Wide Web@
. Year 2000 Problem (248)

. Cnet
. ZDNet

Education

SN College and University, K-12 . . .

. Browse by Region (170)
. By Culture or Group (404)
. By Subject (12)
. Academic Competitions (80)
. Adult and Continuing Education (330)
. Bibliographies (4)
. Bilingual (23)
. Career and Vocational (234)
. Chats and Forums (40)
. Companies@
. Conferences (50)
. Correctional@
. Disabilities@
. Distance Learning (491)
. Early Childhood Education (92)
. Employment (146)
. Equity (27)
. Financial Aid (396)
. Government Agencies (78)
. Graduation (52)
. Higher Education (16594)
. Instructional Technology (341)
. Journals (38)
. K-12 (54618)
. Literacy (12)
. News and Media (83)
. Organizations (3094)
. Policy (52)
. Programs (335)
. Reform (73)
. Special Education (172)
. Standards and Testing (59)
. Statistics (6)
. Teaching (63)
. Theory and Methods (672)
. Web Directories (47)

Entertainment

SN Cool Links, Movies, Humor, Music . . .

. Actors and Actresses (11355)
. Amusement & Theme Parks (396)
. Books and Literature@
. Chats and Forums (92)
. Comedy (794)
. Comics and Animation (4979)
. Consumer Electronics (588)
. Contests, Surveys, and Polls (424)
. Cool Links (1837)
. Employment (366)
. Entertainment and Media Production@
. Events (214)
. Food and Drink@
. Gambling@
. Games@
. Genres (1363)
. History (15)
. Humor (4857)
. Magic (296)
. Movies and Film (19920)
. Music (82025)
. News and Media (394)
. Organizations (11)
. Performing Arts@
. Radio@
. Randomized Things (76)
. Reviews (39)
. Shopping and Services@
. Television@
. Trivia (109)
. Virtual Cards (1019)
. Web Directories (36)
. Webisodes (94)
. X of the Day, Week, etc. (171)

Government

SN Elections, Military, Law, Tax

. Countries (147)
. Chats and Forums (7)
. Civic Participation (27)
. Conventions and Conferences (17)
. Documents (26)
. Embassies and Consulates (99)
. Ethics (14)
. Intelligence (125)
. International Organizations (531)
. Law (2671)
. Military (867)
. National Symbols and Songs (50)
. News and Media (11)
. Politics (11446)
. Public and Civil Service (8)
. Research Labs (26)
. Statistics (40)
. Student Government@
. Taxes (53)
. US Government (11649)
. Web Directories (14)

Health

SN Medicine, Diseases, Drugs, Fitness . . .

. Alternative Medicine (515)
. Business to Business@
. Chats and Forums (56)
. Children's Health (186)
. Conferences (18)
. Death and Dying@
. Dentistry@
. Disabilities@
. Diseases and Conditions (8505)
. Education (62)
. Emergency Services (536)
. Employment (118)
. Environmental Health (200)
. First Aid (12)
. Fitness (201)
. General Health (90)
. Health Administration (66)
. Health Care (347)
. Health Sciences (27)
. Hospitals and Medical Centers (44)
. Institutes (34)
. Law@
. Long Term Care (109)
. Medicine (5071)
. Men's Health (37)
. Mental Health (753)
. Midwifery (56)
. News and Media (199)
. Nursing (459)
. Nutrition (218)
. Organizations (21)
. Pet Health@
. Pharmacy (1231)
. Procedures and Therapies (458)
. Public Health and Safety (2207)
. Reference (98)
. Reproductive Health (713)
. Senior Health (85)
. Sexuality@
. Shopping and Services@
. Teen Health (23)
. Traditional Medicine (197)
. Travel Health and Medicine (24)
. Web Directories (54)
. Weight Issues (90)
. Women's Health (174)
. Workplace (67)

News & Media

SN Full Coverage, Newspapers, TV . . .

. By Region (21280)
. Columns and Columnists (276)
. Commercial Services@
. Content Ratings@
. Industry Information (821)
. Internet Broadcasts (396)
. Journals (33)
. Magazines (3845)
. Newspapers (8447)
. Photojournalism@
. Radio (9428)
. Television (15866)
. Web Directories (99)

. Arts and Humanities@
. Automotive@
. Business (133)
. College and University (1003)
. Computers and Internet@
. Crime@
. Cultures and Groups (15)
. Disabilities@
. Education@
. Entertainment@
. Environment and Nature@
. Good News (9)
. Government@
. Health@
. History@
. Home and Garden@
. Humor (218)
. Law@
. Outdoors@
. Personalized News (14)
. Philanthropy@
. Politics@
. Real Estate@
. Religion@
. Science@
. Sexuality@
. Sports@
. Technology (69)
. Traffic and Road Conditions@
. Transportation@
. Travel@
. Weather (1088)
. Weird News (20)
. World (71)

. ABC News
. BBC News
. CNN
. Fox News
. MSNBC

Recreation & Sports

SN Sports, Travel, Autos, Outdoors . . .

. Amusement and Theme Parks@
. Automotive (5657)
. Aviation (810)
. Booksellers@
. Chats and Forums (7)
. Cooking@
. Dance@
. Employment (7)
. Events (10)
. Fitness@
. Gambling (315)
. Games (17999)
. Hobbies (3044)
. Home and Garden (760)
. Magazines (63)
. Motorcycles@
. Outdoors (9884)
. Pets@
. Sports (47097)
. Television@
. Toys (948)
. Travel (112681)

Reference

SN Libraries, Dictionaries, Quotations . . .

. Acronyms and Abbreviations (25)
. Almanacs (13)
. Arts and Humanities@
. Ask an Expert (556)
. Bibliographies (7)
. Booksellers@
. Calendars (81)
. Codes (24)
. Dictionaries (153)
. Directories (3)
. Encyclopedia (23)
. English Language Usage@
. Environment and Nature@
. Etiquette@
. FAQs (18)
. Finance and Investment@
. Flags (26)
. General (13)
. Geographic Name Servers@
. Health@
. Journals@
. Libraries (4803)
. Maps@
. Measurements and Units@
. Music@
. Parliamentary Procedure (13)
. Patents@
. Phone Numbers and Addresses (166)
. Postal Information (21)
. Quotations (235)
. Research Papers@
. Searching the Net@
. Standards (75)
. Statistics (27)
. Thesauri (22)
. Time@
. Web Directories (16)
. World Population Counts@

Regional

SN Countries, Regions, US States . . .

. U. S. States
. Countries
. Regions (8344)
. Geography@
. Web Directories (28)

Science

SN Animals, Astronomy, Engineering. . . .

. Acoustics (66)
. Agriculture (2054)
. Alternative (1047)
. Amateur Science (18)
. Animals, Insects, and Pets@
. Anthropology and Archaeology@
. Artificial Life (129)
. Ask an Expert (21)
. Astronomy (2519)
. Aviation and Aeronautics (236)
. Bibliographies (6)
. Biology (16535)
. Booksellers@
. Chats and Forums (45)
. Chemistry (1275)
. Cognitive Science (94)
. Complex Systems (23)
. Computer Science (1516)
. Dictionaries (27)
. Earth Sciences (2831)
. Ecology (746)
. Education (549)
. Employment (44)
. Energy (554)
. Engineering (4659)
. Events (35)
. Forensics (59)
. Geography (3410)
. Geology and Geophysics@
. History (83)
. Humor@
. Hydrology@
. Information Technology (71)
. Institutes (58)
. Journals (31)
. Libraries (33)
. Life Sciences (17)
. Mathematics (1934)
. Measurements and Units (219)
. Medicine@
. Meteorology@
. Museums and Exhibits (146)
. Nanotechnology (51)
. News and Media (140)
. Oceanography@
. Organizations (160)
. Paleontology@
. People (52)
. Physics (1647)
. Psychology@
. Religion and Science@
. Research (161)
. Science and Technology Policy
. Science on Postage Stamps (8)
. Space (1292)
. Sports@
. Web Directories (43)

Social Science

SN Archaeology, Economics, Languages . . .

. Anthropology and Archaeology (1145)
. Area Studies (698)
. Bibliographies (13)
. Books@
. Chats and Forums (12)
. Communications (1700)
. Conferences (17)
. Critical Theory@
. Disability Studies (8)
. Economics (1113)
. Education (25)
. Employment (4)
. Environmental Studies@
. Ethnic Studies (173)
. Futures Studies (25)
. Gender Studies (21)
. Genealogy@
. Geography@
. Gerontology (36)
. History@
. Humanities@
. Institutes (83)
. Journals (29)
. Law@
. Lesbian, Gay, & Bisexual Studies (62)
. Libraries (13)
. Library and Information Science@
. Linguistics & Human Languages (2814)
. Migration and Ethnic Relations (37)
. Organizations (29)
. Peace and Conflict Studies (129)
. Political Science (1125)
. Popular Culture Studies@
. Psychology (1346)
. Recreation and Leisure Studies (82)
. Rural Development (36)
. Science, Technology, and Society Studies (100)
. Sexology (33)
. Social Research (62)
. Social Work (158)
. Sociology (421)
. Urban Studies (324)
. Web Directories (13)
. Women's Studies (178)

Society & Culture

SN People, Environment, Religion . . .

. Advice (108)
. Bibliographies (11)
. Chats and Forums (41)
. Crime (4537)
. Cultural Policy (11)
. Cultures and Groups (13258)
. Death and Dying (477)
. Disabilities (1482)
. Environment and Nature (6972)
. Etiquette (36)
. Events (35)
. Families (878)
. Fashion@
. Firearms (155)
. Food and Drink (5147)
. Gender (35)
. Holidays and Observances (2062)
. Issues and Causes (3921)
. Journals (4)
. Magazines (219)
. Museums and Exhibits (5366)
. Mythology and Folklore (976)
. People (46774)
. Pets@
. Relationships (447)
. Religion and Spirituality (36093)
. Reunions (370)
. Sexuality (1470)
. Social Organizations (440)
. Web Directories (10)
. Weddings (283)

Figure 4

Excerpts from the Yahoo Classification

These excerpts from the Yahoo classification are designed to illustrate the structure of the classification, particularly its treatment of *Education* and *Transportation*.

This list is by no means complete with respect to Yahoo classes that deal with *Education* or *Transportation*. Only the areas labeled "(complete)" list all the subdivisions or at least enough subdivisions to give a sense of the overall structure and content of the area. In other areas the subdivisions have been selected to *Education* or *Transportation* or otherwise make a point about the structure. The list does illustrate patterns that are repeated throughout the classification.

Note: Some Yahoo classes do not have the number of associated Web pages. I sometimes used a simplified method for copying from the Yahoo displays that did not carry the number with it. Numbers were also deleted if they ran into a second line.

Symbols used

- Category falls conceptually under *Education* (this may or may not be shown in Yahoo).

▸ Category falls conceptually under *Transportation* (this may or may not be shown in Yahoo).

SN Scope Note. If SN is bolded, you should read it because it illustrates a general point.

At the top of each left page the hierarchical context is given by repeating the preceding levels of the hierarchy in italics, e.g. *Education*. Across a page spread, you can always find the hierarchical context.

The top level categories are **large and bold**, the categories on level 1 are **bold**. Sometimes important subdivisions further down are bolded to make the structure easier to see.

Arts & Humanities

SN Literature, Photography ...
. **Design Arts** (5187)
. . Architecture (1497)
. . . Buildings and Structures (474)
. . . . ▸Bridges@
. . . •Education (158)
. . •Education (73)
. **•Education**
. . Art History@
. . Art Schools (132)
. . College and University (252)
. . Companies@
. . Courses (12)
. . Design Arts@
. . Humanities@
. . K-12 (90)
. . . Curriculum Standards (28)
. . . Drama@
. . . Lesson Plans (17)
. . . Schools (35)
. . . Usenet (2)
. . Non-Degree Programs (47)
. . Organizations (32)
. . Performing Arts@
. . Teaching (6)
. . Workshops
. **Humanities**
. . History
. . . •Education
. . . . Art History@
. . . . College and University (217)
. . . . Courses (2)
. . . . K-12 (71)
. . . . . Courses (16)
. . . . . Curriculum Standards (5)
. . . . . Fairs and Competitions (3)
. . . . . Social Studies@
. . . . . Teacher Resources (26)
. . . . Organizations (4)
. . . U.S. History
. . . . By Time Period
. . . . . 19th Century
. . . . . ▸Transcontinental Railroad
. . Literature (16329)
. . . Authors (9971)
. . . . ▸Travel Writers (86)
. . . Genres (2194)
. . . . Nonfiction (130)
. . . . . ▸Travel Writing (16)
. **Performing Arts**
. . Dance
. . . •Education
. . . . College and Univ. Depts (24)
. . . . K-12 Curriculum Standards
. . . . Schools (138)
. . . . Summer Programs & Festivals

Business & Economy

SN B2B, Finance, Shopping, Jobs
. **Business to Business** (268905)
. . Construction (36758)
. . . General Contractors (448)
. . . . Commercial (344)
. . . . . ▸Railroads (15)
. . ▸Automotive (2053)
. . . •Training and Development (32)
. . . . Professional Driving Schools
. . **•Education** (complete)
. . . **By Subject** (909)
. . . . Adult Basic Education (8)
. . . . Art@
. . . . Business@
. . . . Computers & Technology (38)
. . . . Environment and Nature (11)
. . . . Health and Fitness@
. . . . Languages (242)
. . . . . Directories (1)
. . . . . Professional Development (2)
. . . . . Teaching & Learning Aids
. . . . . Booksellers@
. . . . . CDs, Records, & Tapes
. . . . . Curriculum (3)
. . . . . Publishers@
. . . . . Software (35)
. . . . . Specific Languages (163)
. . . . . Amharic (1)
. . . . . Arabic (4)
. . . . . Bahasa Indonesia (1)
. . . . . Chinese (11)
. . . . . English 2nd Language
. . . . . Farsi (1)
. . . . . French (15)
. . . . . German (4)
. . . . . Greek (4)
. . . . . Hawaiian (1)
. . . . . Italian (2)
. . . . . Japanese (13)
. . . . . Korean (3)
. . . . . Navajo (1)
. . . . . Russian (7)
. . . . . Scots English (1)
. . . . . Sign Language (12)
. . . . . Spanish (16)
. . . . . Swedish (1)
. . . . . Tagalog (2)
. . . . . Thai (2)
. . . . . Vietnamese (1)
. . . . . Welsh (1)
. . . . . Videos (7)
. . . . Life Skills (61)
. . . . Mathematics (133)
. . . . Media Studies (2)
. . . . Music (11)
. . . . Reading and Writing (176)
. . . . Religion@
. . . . Science (166)
. . . . Social Studies (39)
. . . . Special Education (6)
. . . . Vocational Arts (12)
. . . Academic Competitions (8)
. . . Administration (198)
. . . Computers and Technology (81)
. . . Consulting (62)
. . . Directories (5)
. . . Financial Services (14)
. . . Fund Raising@
. . . International (9)
. . . Marketing and Recruiting (14)
. . . Presenters (13)
. . . Professional Development (55)
. . . School Management (42)
. . . Supplies and Equipment (83)
. . . **Teaching & Learning Aids** (493)
. . . . By Subject (49)
. . . . . Adult Basic Education@
. . . . . Adult Literacy@
. . . . . Curriculum (4)
. . . . . Software (3)
. . . . . Software (4)
. . . . . Adult Literacy@
. . . . . Art (8)
. . . . . Curriculum (3)
. . . . . Software (2)
. . . . . Videos (2)
. . . . . Business (6)
. . . . . Computers & Technology@
. . . . . Curriculum (2)
. . . . . Logo Programming Language@
. . . . . Software (4)
. . . . . Videos (2)
. . . . . Titles (1)
. . . . . Environment and Nature@
. . . . . Health and Fitness (12)
. . . . . Curriculum (6)
. . . . . Sex Education (2)
. . . . . Languages@
. . . . . Booksellers@
. . . . . Arabic (6)
. . . . . Chinese (5)
. . . . . French (5)
. . . . . German (5)
. . . . . Greek (4)
. . . . . Japanese (8)
. . . . . Titles (1)
. . . . . Polish (4)
. . . . . Portuguese (7)
. . . . . Publishers@
. . . . . Russian (7)
. . . . . Spanish (17)
. . . . . Antique, Rare, & Used Titles (4)
. . . . . Tamil (3)
. . . . . Titles (7)
. . . . . Dictionaries@
. . . . . Japanese@
. . . . . Spanish@

. . . . . CDs, Records, & Tapes
. . . . . English as a second Language @
. . . . . Curriculum (3)
. . . . . Publishers@
. . . . . English as a second Language (5)
. . . . . Software (34)
. . . . . Chinese@
. . . . . English as a second Language@
. . . . . Japanese@
. . . . . Resellers (5)
. . . . . Sign Language@
. . . . . Spanish@
. . . . . Titles (2)
. . . . . Specific Languages (157)
. . . . . Amharic (1)
. . . . . Arabic (4)
. . . . . Bahasa Indonesia (1)
. . . . . Chinese (11)
. . . . . Booksellers@
. . . . . Software (7)
. . . . . English as a second Language (57)
. . . . . CDs, Records,&Tapes (5)
. . . . . Flash Cards (2)
. . . . . Magazines@
. . . . . Online Subscription Services (2)
. . . . . Publishers@
. . . . . Software (17)
. . . . . TOEFL Preparation@
. . . . . Videos (4)
. . . . . Farsi (1)
. . . . . French (14)
. . . . . Booksellers@
. . . . . German (4)
. . . . . Greek (4)
. . . . . Hawaiian (1)
. . . . . Italian (2)
. . . . . Japanese (13)
. . . . . Booksellers@
. . . . . Titles (1)
. . . . . Software (9)
. . . . . Korean (2)
. . . . . Navajo (1)
. . . . . Russian (6)
. . . . . Booksellers@
. . . . . Scots English (1)
. . . . . Sign Language (12)
. . . . . Software (2)
. . . . . Videos (8)
. . . . . Titles (4)
. . . . . Spanish (15)
. . . . . Booksellers@
. . . . . Software (6)
. . . . . Swedish (1)
. . . . . Tagalog (2)
. . . . . Thai (2)
. . . . . Vietnamese (1)
. . . . . Welsh (1)
. . . . . Videos (7)
. . . . . English as a second Language@
. . . . . Sign Language@
. . . . . Titles (1)
. . . . . Life Skills@
. . . . . Character Education (11)
. . . . . Curriculum (3)
. . . . . Curriculum (13)
. . . . . Character Education@
. . . . . Software (3)
. . . . . Videos (8)
. . . . . Titles (2)
. . . . . Mathematics@
. . . . . Books@
. . . . . Algebra (3)
. . . . . Calculus (4)
. . . . . Chaos (3)
. . . . . Statistics (1)
. . . . . Curriculum (5)
. . . . . Games (2)
. . . . . Manipulatives (11)
. . . . . Online Subscription Services (1)
. . . . . Posters and Charts (1)
. . . . . Software (77)
. . . . . Testing & Assessment Software@
. . . . . Titles (2)
. . . . . Titles (16)
. . . . . Videos (6)
. . . . . Titles (2)
. . . . . Media Studies@
. . . . . Music@
. . . . . Reading and Writing@
. . . . . Adult Literacy (9)
. . . . . Curriculum (4)
. . . . . Software (3)
. . . . . Books@
. . . . . Curriculum (24)
. . . . . Adult Literacy@
. . . . . Flash Cards (5)
. . . . . Games (4)
. . . . . Manipulatives (3)
. . . . . Software (49)
. . . . . Adult Literacy@
. . . . . Handwriting (2)
. . . . . Speed Reading@
. . . . . Spelling@
. . . . . Titles (7)
. . . . . Speed Reading@
. . . . . Software (4)
. . . . . Spelling (7)
. . . . . Games (2)
. . . . . Software (3)
. . . . . Videos (4)
. . . . . Vocabulary (11)
. . . . . Religion (10)
. . . . . Christian Home Schooling@
. . . . . Science@
. . . . . CDs, Records, & Tapes
. . . . . Curriculum (12)
. . . . . Environment & Nature@
. . . . . Games (1)
. . . . . Lab Equipment&Supplies (23)
. . . . . Manipulatives (6)
. . . . . Online Subscription Services (3)
. . . . . Posters and Charts (3)
. . . . . Software (43)
. . . . . Chemistry (4)
. . . . . Physics (6)
. . . . . Titles (4)
. . . . . Videos (8)
. . . . . Social Studies@
. . . . . Curriculum (8)
. . . . . Online Subscription Serv.
. . . . . Software (5)
. . . . . Videos (4)
. . . . . Titles (1)
. . . . . Special Education@
. . . . . Publishers@
. . . . . Vocational Arts@
. . . . . Software (4)
. . . . Academic Competitions (3)
. . . . Books@
. . . . . Retail@
. . . . . Publishers@
. . . . . Academic@
. . . . . .College & University Presses@
. . . . . Organizations (1)
. . . . . .Textbooks@
. . . . . Booksellers@
. . . . . Home Schooling Materials (21)
. . . . . Language Education@

***Business & Economy**, continued*
. ***Business to Business***
. . *•Education*
. . . *Teaching & Learning Aids (493)*
. . . . . Special Education Books
. . . . . Supplementary Materials
. . . . . Forensics & Debate
. . . . . Teacher Aids (12)
. . . . . Textbooks (88)
. . . . . Higher Education (53)
. . . . . K-12 (17)
. . . . . Vocational Training Books (4)
. . . . . Textbooks (43)
. . . . . College & University Bookstores@
. . . . . Textbooks@
. . . . . Science@
. . . . . Used (18)
. . . . . Titles (95)
. . . . . Administration (2)
. . . . . College & University
. . . . . Admissions (10)
. . . . . Athletic Recruiting@
. . . . . Financial Aid (6)
. . . . . University Life (4)
. . . . . Distance Learning (3)
. . . . . Educating Your Child@
. . . . . Home Schooling (8)
. . . . . Reform (3)
. . . . . School Directories (4)
. . . . . Study Guides (7)
. . . . . Teaching (20)
. . . . . Reading (8)
. . . . . Test Preparation (12)
. . . . . Textbooks (8)
. . . . . Titles@
. . . . Christian Home Schooling@
. . . . Curriculum (38)
. . . . . By Subject (9)
. . . . . Christian Home Schooling@
. . . . . Preschool (9)
. . . . . School Reform (2)
. . . . . Textbooks@
. . . . Learning Skills (21)
. . . . . Memory Improvement (10)
. . . . . Software (2)
. . . . . Study Skills (2)
. . . . . Books@
. . . . Publishers@
. . . . Resellers (23)
. . . . Reviews (2)
. . . . Supplementary Materials
. . . . . CDs, Records, & Tapes (7)
. . . . . Languages@
. . . . . English 2nd Language@
. . . . . Science@
. . . . . Distance Learning (35)
. . . . . Online Subscription Serv.
. . . . . Email (2)
. . . . . Art@
. . . . . English 2nd Language@
. . . . . Mathematics@
. . . . . Science@
. . . . . Social Studies@
. . . . . Flash Cards (10)
. . . . . English as a second Language@
. . . . . Reading and Writing@
. . . . . Software (5)
. . . . . Games (7)
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Science@
. . . . . Software@
. . . . . Manipulatives (5)
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Science@
. . . . . Montessori (10)
. . . . . Newspapers & Magazines
. . . . . Posters and Charts (9)
. . . . . Mathematics@
. . . . . Science@
. . . . . Publishers@
. . . . . Software (149)
. . . . . By Subject (10)
. . . . . Adult Basic Education@
. . . . . Art@
. . . . . Computers&Technology@
. . . . . Languages@
. . . . . Life Skills@
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Science@
. . . . . Social Studies@
. . . . . Vocational Arts@
. . . . . Flash Cards@
. . . . . Games (1)
. . . . . Resellers (18)
. . . . . Shareware (2)
. . . . . Software Reviews@
. . . . . Teaching Tools (15)
. . . . . Admin. Functions@
. . . . . Classroom Organizers
. . . . . Consulting (1)
. . . . . Curriculum Planning
. . . . . Discipline Tracking
. . . . . Financial (5)
. . . . . Grading & Evaluation
. . . . . Resellers (1)
. . . . . Titles (3)
. . . . . Home Schooling (5)
. . . . . Info. Mangmnt Systems
. . . . . School-to-Wrk Progr.
. . . . . Student Information
. . . . . Inventory Management
. . . . . Registration (1)
. . . . . Resellers (3)
. . . . . Scheduling (8)
. . . . . Special Education
. . . . . Testing & Assessment
. . . . . Classroom Computer Control (4)
. . . . . Test Preparation@
. . . . . College Entrance@
. . . . . Titles (4)
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Videos (44)
. . . . . By Subject (13)
. . . . . Art@
. . . . . Computers & Technol.@
. . . . . Languages@
. . . . . Life Skills@
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Science@
. . . . . Social Studies@
. . . . . Titles (5)
. . . . . Computers & Tech..@
. . . . . Languages@
. . . . . Sign Language@
. . . . . Life Skills@
. . . . . Mathematics@
. . . . . Social Studies@
. . . . . Test Preparation@
. . . . . Titles (2)
. . . . . By Subject@
. . . . . Test Preparation@
. . . . Teaching Methods (1)
. . . Testing and Assessment (27)
. . **Emergency Services** (803)
. . . ▸Air Ambulance Services (34)
. . . Supplies and Equipment (159)
. . . . ▸Vehicles (20)
. . . . . Ambulances (12)
. . . . . Fire Trucks@
. . . . . Rescue Watercraft@
. . Labor
. . . Unions
. . . . ▸Railroad@
. . ▸**Transportation** (3755)
. . . Aerospace@
. . . Automotive@
. . . Aviation (1627)
. . . . Aerial Advertising@
. . . . Aerospace@
. . . . Agricultural@
. . . . Air Cargo Services@
. . . . Air Shows (8)

. . . . Aircraft (900)
. . . . Airlines@
. . . . . United Airlines
. . . . . •Education
. . . . Airports (110)
. . . . Aviation Weather@
. . . . Avionics@
. . . . Aviophobia@
. . . . Books@
. . . . Classifieds@
. . . . Consulting (71)
. . . . Directories (28)
. . . . In-Flight Entertainment (3)
. . . . Insurance@
. . . . Navigation Systems@
. . . . Organizations (80)
. . . . Software (76)
. . . . Supplies and Equipment (107)
. . . . Trade Magazines (19)
. . . . Training (189)
. . . . Videos@
. . . Buses (74)
. . . Consulting (73)
. . . Directories (10)
. . . Fleet Services (92)
. . . Intelligent Transportation Syst.
. . . Limousines and Shuttles (23)
. . . Maritime (307)
. . . . Boat Transport (25)
. . . . Boating@
. . . . Cargo Services@
. . . . Construction@
. . . . Consulting (5)
. . . . Conventions &Trade Shows (6)
. . . . Directories (10)
. . . . Insurance@
. . . . Navigation@
. . . . Organizations (17)
. . . . Parts and Accessories (39)
. . . . Port Authorities@
. . . . Publications (4)
. . . . Shipbuilding (94)
. . . . Ships (33)
. . . . Software (7)
. . . . Submarines (9)
. . . . Trade Magazines (2)
. . . Movers@
. . . Organizations@
. . . Road Maintenance (30)
. . . Software (64)
. . . Trade Magazines (10)
. . . Traffic Control (165)
. . . Trains and Railroads (126)
. . . Trolleys (8)
. . . Trucks
. . . . Trucking (594)
. . . . . •Driving Schools (35)

. **Shopping and Services** (378101)
. . ▸Automotive (24751)
. . . •Driving Schools (524)
. . . . By Region (491)
. . . . . U.S. States (256)
. . . . . Massachusetts (5)
SN Boston Metro not here
. . . . . New York (42)
. . . . . Cities (14)
. . . . . New York@ **see *****
. . . Motorcycles (1054)
. . . . •Driving Schools (5)
. . Publishers (3285)
. . . •Education (277)
. . . Languages (35)
. . . . •Language Education (17)
. . . . . English as a second Language
. •**Education**
. . Business Schools@
. . College and University (775)
. . K-12 (26)
. . . Curriculum Standards (4)
. . . Organizations (22)
. . Organizations (6)
. ▸**Transportation** (2094) (complete)
SN No subcategory Education
. . Auto-Free Transportation (23)
. . . Bicycle Advocacy@
. . . Mass Transit@
. . . Organizations (8)
. . . Pedestrian Advocacy & Safety@
. . Aviation (513)
. . . Accidents (51)
SN LCC has X-ref from Health
. . . . Grief Support@
. . . . Specific Crashes (37)
. . . Aerospace Companies@
. . . . Aviation@
. . . . Consulting (45)
. . . . Development (6)
. . . . Electronic Warfare@
. . . . Engines (16)
. . . . Equipment (214)
. . . . Industry Information (28)
. . . . Research and Design (32)
. . . . Simulations (15)
. . . . Software (25)
. . . . Spacecraft
. . . Air Traffic Control (14)
. . . Air Travel@
. . . Aircraft (119)
. . . Art@
. . . Aviation and Aeronautics@
. . . Aviation & Aerospace Medcin@
. . . Aviation Weather@
. . . Aviators (55)
. . . Aviophobia@

. . . Classifieds@
. . . Companies@
. . . History (149)
. . . Military@
. . . Museums@
. . . Pictures (46)
. . . Recreational Aviation@
. . . Safety (32)
. . . Women
. . Buses (26)
. . Canals (22)
. . Commuting (30)
. . Companies@
. . Employment (4)
. . Events (2)
. . Freight (8)
. . Government Agencies (62)
. . Highways and Roads (127)
. . . Automated Highway Systems@
. . . Bridges (52)
. . . Government Agencies (9)
. . . Organizations (13)
. . . Regional Information (38)
. . . Road Maintenance@
. . . Roman Roads@
. . . Scenic Highways and Byways@
. . . Traffic and Road Conditions@
. . . Traff. Signs, Signals, & Lamps@
. . History (5)
. . Institutes (44)
. . Intelligent Transportation Systems
. . Libraries (7)
. . Limousines and Shuttles@
. . Maritime (237)
. . . Boats@
. . . Companies@
. . . Cruise Lines@
. . . Employment (8)
. . . Maritime History@
. . . Merchant Marines (6)
. . . Passenger Ferries (51)
. . . Port Authorities (128)
. . . Ships (28)
. . . Submarines@
. . Mass Transit (58)
. . Museums (17)
. . News and Media (247)
. . . Traffic & Road Conditions (234)
. . . . Traffic Cams (15)
. . Organizations (67)
. . Port Authorities@
. . Safety (14)
. . Statistics (7)

***Business & Economy**, continued*
. ▸***Transportation***
. . Streetcars, Trolleys, & Trams (45)
. . Taxis (17)
. . Traffic and Road Conditions@
. . Trains and Railroads (390)
. . . Companies@
. . . High Speed Rail (11)
. . . History (81)
. . . Magazines (10)
. . . Model Trains and Railroads@
. . . Monorails (9)
. . . Museums (64)
. . . Organizations (27)
. . . Railbiking@
. . . Rails-to-Trails (27)
. . . Railway Enthusiasts (55)
. . . Railwayana (5)
. . . Safety (17)
. . . Steam Locomotives (8)
. . . Subways (5)
. . . Travel@
. . . Web Directories (10)
. . . Usenet
. . Transportation Engineering@
. . Trucking (46)
. . Tunnels (32)
. . Web Directories (3)
. . Usenet (4)

Computers & Internet

SN Internet, WWW, Software, Games ...
. **Internet** (5999)
. . Devices Connected to the Internet (1316)
. . . Web Cams (1233)
. . . . Outdoor Cams (233)
. . . . . ▸Traffic Cams@
. . •Online Teaching and Learning@
. **Multimedia** (675)
. . Audio (200)
. . . Formats (133)
. . . . MP3 (118)
. . . . . Players@
. . . . . ▸Automotive (9)
. **Software**
. . Reviews
. . . •Education
. . . Scientific
. . . . Math
. . . . . •Educational

•**Education** (complete, except for regional subdivisions)
SN College and University, K-12
SN No subcategory Transportation either directly or indirectly
. **By Region** (170)
. . Regions (6)
. . . Africa@
. . . Asia@
. . . . Browse By Country (38)
. . . . . Armenia@
. . . . . Azerbaijan@
. . . . . Bahrain@
. . . . . Bangladesh@
. . . . . Higher Education (10)
. . . . . Organizations (3)
. . . . . Primary and Secondary (3)
. . . . . Cities@
. . . . . Complete List@
. . . . . Brunei@
. . . . . Cambodia@
. . . . . China@
. . . . . India@
. . . . . Indonesia@
. . . . . Iran@.
. . . . . Government Agencies (1)
. . . . . Higher Education (19)
. . . . . Colleges & Universities
. . . . . Cities@
. . . . . Isfahan@
. . . . . Shiraz@
. . . . . Tehran@
. . . . . Complete List@
. . . . . Teaching (1)
. . . . . Iraq@
. . . . . Israel@
. . . . . Japan@
. . . . . Jordan@
. . . . . Kazakstan@
. . . . . Korea, South@
. . . . . Krygyzstan@
. . . . . Kuwait@
. . . . . Lebanon@
. . . . . Macau@
. . . . . Malaysia@
. . . . . Mongolia@
. . . . . Myanmar@
. . . . . Nepal@
. . . . . Oman@
. . . . . Pakistan@
. . . . . Philippines@
. . . . . Qatar@
. . . . . Russia@
. . . . . Saudi Arabia@
. . . . . Singapore@
. . . . . Sri Lanka@
. . . . . Taiwan@
. . . . . Thailand@
. . . . . Turkey@
. . . . . United Arab Emirates@
. . . . . Vietnam@
. . . . . Yemen@
. . . . Companies@
. . . . Conferences (1)
. . . . Higher Education (1)
. . . . Organizations (3)
. . . . Primary and Secondary (3)
. . . . . Complete List@
. . . . . Guidance Counseling
. . . . . Student Resources
. . . Europe@
. . . Latin America@
. . . Oceania@
. . . Pacific Rim@
. . Countries (113)
. . . Andorra@
. . . Argentina@
. . . . Distance Learning (1)
. . . . Higher Education (28)
. . . . . Colleges and Universities(29)
. . . . . Cities@
. . . . . Buenos Aires@
. . . . . Cordoba@
. . . . . Lujan@
. . . . . Moron@
. . . . . Rosario@
. . . . . Salta@
. . . . . Provinces and Regions@.
. . . . . Buenos Aires@
. . . . . Cordoba@
. . . . . Lujan@
. . . . . Moron@
. . . . . Rosario@
. . . . . Salta@
. . . . . Complete List@
. . . . Organizations (1)
. . . . Primary and Secondary (20)
. . . . . Cities@
. . . . . Buenos Aires@
. . . . . Cordoba@
. . . . . Provinces and Regions@
. . . . . Buenos Aires@
. . . . . Cordoba@
. . . . . Complete List@
. . . . . Schools (1)
. . . . Programs (1)
. . . . Spanish Language Schools@
. . . Armenia@
. . . Australia@
. . . Austria@
. . . Bahrain@
. . . Bangladesh@
. . . Belarus@
. . . Belgium@
. . . Belize@
. . . Bolivia@
. . . Bosnia and Herzegovina@
. . . Brazil@
. . . Brunei@
. . . Bulgaria@

. . . Canada@
. . . Chile@
. . . China@
. . . Colombia@
. . . Congo, Democr. Republic of@
. . . Costa Rica@
. . . Croatia@
. . . Cuba@
. . . Cyprus@
. . . Czech Republic@
. . . Côte d'Ivoire@
. . . Denmark@
. . . Dominican Republic@
. . . Ecuador@
. . . Egypt@
. . . El Salvador@
. . . Estonia@
. . . Federal Republic of Yugoslavia@
. . . Fiji@
. . . Finland@
. . . France@
. . . Germany@
. . . Ghana@
. . . Greece@
. . . Grenada@
. . . Guatemala@
. . . Haiti@
. . . Honduras@
. . . Hungary@
. . . Iceland@
. . . India@
. . . Indonesia@
. . . Iran@
. . . Iraq@
. . . Ireland@
. . . Israel@
. . . Italy@
. . . Jamaica@
. . . Japan@
. . . Jordan@
. . . Kenya@
. . . Korea, South@
. . . Kuwait@
. . . Latvia@
. . . Lebanon@
. . . Liechtenstein@
. . . Lithuania@
. . . Luxembourg@
. . . Macedonia, Former Yugoslav @
. . . Malaysia@
. . . Malta@
. . . Marshall Islands@
. . . Mexico@
. . . Micronesia, Fed. States of@
. . . Monaco@
. . . Morocco@
. . . Myanmar@
. . . Nepal@
. . . Netherlands@
. . . New Zealand@
. . . Nicaragua@
. . . Norway@
. . . Pakistan@
. . . Panama@
. . . Papua New Guinea@
. . . Paraguay@
. . . Peru@
. . . Philippines@
. . . Poland@
. . . Portugal@
. . . Romania@
. . . Russia@
. . . Saint Vincent and The Grenadines@
. . . Saudi Arabia@
. . . Singapore@
. . . Slovakia@
. . . Slovenia@
. . . South Africa@
. . . Spain@
. . . Sri Lanka@
. . . Sudan@
. . . Sweden@
. . . Switzerland@
. . . Taiwan@
. . . Thailand@
. . . Tonga@
. . . Trinidad and Tobago@
. . . Tunisia@
. . . Turkey@
. . . Uganda@
. . . Ukraine@
. . . United Arab Emirates@
. . . United Kingdom@
. . . Uruguay@
. . . Venezuela@
. . . Vietnam@
. . . Zambia@
. . . Zimbabwe@
. . U.S. States (51)
. **By Culture or Group** (396)
. . African American (17)
. . . African American Studies@
. . . . History@
. . . . . Amistad@
. . . . . Black History Month (18)
. . . . . Buffalo Soldiers (14)
. . . . . Civil Rights Movement@
. . . . . Civil War Units (4)
. . . . . Genealogy (15)
. . . . . Harlem Renaissance@
. . . . . Juneteenth@
. . . . . Lynching@
. . . . . Museums & Memorials (13)
. . . . . People@
. . . . . Science and Technology (4)
. . . . . Slavery@
. . . . . Sports@
. . . . . Timelines (3)
. . . . . Web Directories (3)
. . . . Institutes (31)
. . . . Journals (2)
. . . . Libraries (2)
. . . . Literature@
. . . . Theorists and Critics (7)
. . . Historically Black Colleges & Universities@
. . Lesbian, Gay, and Bisexual (207)
. . Migrant (9)
. . Native American (44)
. . Religious@
. . Rural (11)
. . Seniors (8)
. . U.S. Hispanic and Latino (9)
. . Women (90)
. **By Subject** (11)
. . Art@
. . . Art History@
. . . . Art Historians@
. . . . College and University Departments (75)
. . . . Courses (3)
. . . Art Schools (126)
. . . College and University (253)
. . . Companies@
. . . Courses (12)
. . . Design Arts@
. . . Humanities@
. . . K-12 (88)
. . . Non-Degree Programs (47)
. . . Organizations (31)
. . . Performing Arts@
. . . Teaching (6)
. . . Workshops (46)
. . Business@
. . Environment and Nature@
. . Health@
. . Humanities@
. . Languages@
. . Mathematics@
. . Music@
. . News and Media@
. . Science@
. . Social Science@.
. **Academic Competitions** (77)
. . College and University (32)
. . . College Bowl (13)
. . . . Teams (11)
. . . Debate@
. . . Teams (16)
. . Companies@
. . Forensics@
. . K-12 (39)
. . Teams (2)

***Education**, continued*

. **Adult & Continuing Education**
. . Career Specific Training@
. . . Apparel@
. . . Auctioneering@
. . . ▸Automotive@
. . . ▸Aviation@
. . . Bartending@
. . . ▸Bicycle Mechanic Schools@
. . . Biomedical@
. . . Bootmaking@
. . . Brewing@
. . . Broadcasting@
. . . Building Inspection Services@
. . . Clock and Watch Repair@
. . . Commercial Diving@
. . . Computer@
. . . Construction@
. . . Cosmetology@
. . . Culinary@
. . . Customer Service@
. . . Dog Grooming@
. . . •Education@
. . . Electronics@
. . . Emergency Services@
. . . Engineering@
. . . Environment@
. . . Facilities Management@
. . . Financial Services@
. . . Fitness@
. . . Floral Design@
. . . Funeral Service@
. . . Gambling@
. . . Gunsmithing@
. . . Health Care@
. . . Hospitality Industry@
. . . Human Resources@
. . . Interior Design@
. . . Investigative Services@
. . . Jewelry and Gemstones@
. . . Law@
. . . Makeup Artist Training@
. . . Manufacturing@
. . . Museums@
. . . Music Production@
. . . Neuro-Linguistic Programmg@
. . . Real Estate@
. . . Religious@
. . . Security and Law Enforcement@
. . . ▸Travel@
. . . ▸Truck Driving@
. . . Welding@
. . . Writing and Editing@
. . Chautauqua Movement (6)
. . Companies@
. . Distance Learning@
. . GED@
. . Institutes (203)
. . Literacy (66)
. . Media Education@
. . Organizations (27)
. . Publications (2)
. . Special Education (4)
. **Bibliographies** (4)
. . Character Education@
. **Bilingual** (24)
. . English as a Second Language@
. . . Bilingual Education@
. . . . Bilingual Education@
. . . Chats and Forums (9)
. . . College and University Departments (84)
. . . Commercial Products@
. . . Conferences (1)
. . . IELTS (5)
. . . Language Schools (143)
. . . Lessons & Tutorials Online (45)
. . . Magazines (8)
. . . Organizations (2)
. . . Student Projects (9)
. . . Teaching (52)
. . . TOEFL (1)
. . . TOEIC (1)
. . . Web Directories (15)
. **Career and Vocational** (232)
. . Career Planning (127)
. . Career Specific Training@
. . Institutes (11)
. . Occupational Standards (11)
. . Organizations (28)
. . School to Work (27)
. . Schools (23)
. **Chats and Forums** (40)
. . Chat (4)
. . •Educational MOOs@
. . Mailing Lists (7)
. . Message Boards (7)
. . Usenet (16)
. **Companies**@
. . Admissions (74)
. . Athletic Recruiting@
. . Business to Business@
. . Career Training@
. . Counseling (12)
. . Financial Aid (79)
. . Home Schooling (52)
. . International (19)
. . Internet Services (1)
. . Learning Centers (9)
. . School Reports (3)
. . School Supplies (17)
. . Teaching & Learning Aids@
. . Test Preparation (169)
. . Tour Operators@
. . Tutoring (40)
. **Conferences** (52)
. . Distance Learning (2)
. . Home Schooling@
. . Instructional Technology@
. . K-12@
. . Languages@
. . Math Education@
. . Past Conferences (20)
. . Science Education@
. **Correctional**@
. . Organizations (1)
. . Regional Agencies (8)
. **Disabilities**@
. . Blindness@
. . College Support & Resources (31)
. . Deafness@
. . Disability Studies@
. . Organizations (8)
. . Special Education@
. **Distance Learning** (462)
. . Adult & Continuing Education
. . Colleges and Universities (245)
. . Conferences@
. . Courses About (2)
. . Courses Online (11)
. . K-12 (63)
. . Language Schools@
. . Online Teaching and Learning@
. . Teacher Education (11)
. . Telementoring@
. . Television (22)
. . Vocational Schools (15)
. . Web Directories (11)
. **Early Childhood Education** (84)
. . Child Care@
. . Institutes (9)
. . Organizations (33)
. . Schools (7)
. . Teaching (11)
. **Employment** (138)
. . English as a Second Language@
. . Individual Resumes (66)
. . Jobs (69)
. . Recruiting and Placement@
. . Unions@
. **Equity** (27)
. . Gender Equity@
. . Government Agencies (4)
. . Organizations (11)
. . Research Centers (2)
. **Financial Aid** (386)
. . College Aid Offices (163)
. . Companies@
. . Grants (57)
. . K-12 School Funding@
. . Loans (11)
. . Organizations (13)
. . Regional Resources (23)
. . Savings & Investment Planning@
. . Scholarship Programs (88)
. **Government Agencies** (77)
. . Canada@
. . Equity@
. . United States (53)
. **Graduation** (58)

. . Clip Art and Graphics (6)
. . Graduation Poems (3)
. . Speeches (42)
. . Virtual Cards@
. **Higher Education** (17643)
. . Academic Competitions@
. . . College Bowl (13)
. . . . Teams (11)
. . . Debate@
. . . . Clubs, Teams, & Societies (29)
. . . Teams (16)
. . . . College Bowl@
. . . . Debate@
. . . . Forensics@
. . Books@
. . . Admissions (10)
. . . Athletic Recruiting@
. . . Financial Aid (6)
. . . University Life (4)
. . **College Entrance** (441)
. . . Admissions Offices (299)
. . . Books@
. . . Business Schools@
. . . Companies@
. . . . Athletic Recruiting@
. . . . . Baseball@
. . . . . Books@
. . . . . Football@
. . . . . Soccer@
. . . . Books@
. . . . College Tour Operators (2)
. . . . Counseling (29)
. . . . . Graduate School (4)
. . . . . International Students (9)
. . . . Essays and Applications (25)
. . . . International Students (5)
. . . . . Counseling@
. . . . Online Applications (3)
. . . . Software (2)
. . . . Videos (3)
. . . Educational Standards & Testing@
. . . . ACT (1)
. . . . GED (2)
. . . . . GED Prep. Companies@
. . . . GMAT (3)
. . . . GRE (3)
. . . . IELTS@
. . . . . By Region (52)
. . . . . Canadian Provinces (8)
. . . . . U.S. States (44)
. . . . . By Subject (13)
. . . . K-12 Curriculum Standards@
. . . . LSAT (4)
. . . . MCAT (5)
. . . . . Companies@
. . . . Occupational Standards@
. . . . . Australian Qualifications Framework@
. . . . . U.K. Natl Vocatl Qualific.@
. . . . . U.S. National Skill Standards
. . . . SSAT (1)
. . . . Test Preparation Companies@
. . . . . Books@
. . . . . Career Fields (79)
. . . . . Civil Service (5)
. . . . . Customs Broker (2)
. . . . . •Education (10)
. . . . . TEFL/TESL (9)
. . . . . Electrician (2)
. . . . . Engineering (2)
. . . . . Finance (29)
. . . . . CFA (11)
. . . . . CPA (8)
. . . . . EA (1)
. . . . . Insurance (2)
. . . . . NASD (3)
. . . . . Health (18)
. . . . . Medicine (11)
. . . . . Boards (6)
. . . . . USMLE (5)
. . . . . Mental Health (1)
. . . . . Nursing@
. . . . . Law (6)
. . . . . Bar Examination (6)
. . . . . Military (1)
. . . . . Social Work
. . . . . College Entrance (26)
. . . . . GED (5)
. . . . . Graduate School Entrance
. . . . . Online Subscription Serv. (7)
. . . . . Software (10)
. . . . . TOEFL (7)
. . . . . Videos (2)
. . . . Testing Companies@
. . . . . Computer-Based Testing Services (7)
. . . . . Online (5)
. . . . . Software@
. . . . . Math (3)
. . . . . Titles (2)
. . . . . Resellers (1
. . . . TOEFL@
. . . . TOEIC@
. . . . Voluntary National Testing (4)
. . . Financial Aid@
. . . . College Aid Offices (163)
. . . . Companies@
. . . . . Books@
. . . . . Counseling (4)
. . . . . Lenders (33)
. . . . . International (1)
. . . . . Loan Guarantors (4)
. . . . . Loan Servicers (6)
. . . . . Scholarship Search Serv. (16)
. . . . . Secondary Markets (5)
. . . . Grants (57)
. . . . . Web Directories (4)
. . . . K-12 School Funding@
. . . . . Organizations (7)
. . . . . Technology Funding@
. . . . . Technology Funding (16)
. . . . . Organizations (7)
. . . . . Programs (5)
. . . . Loans (11)
. . . . . Lenders@
. . . . . International (1)
. . . . Organizations (13)
. . . . Regional Resources (23)
. . . . Savings & Investment Planning@
. . . . . Education Savings Plans@
. . . . Scholarship Programs (88)
. . . . . Search Services@
. . . . . Web Directories (4)
. . . . Search Services@
. . . . Web Directories (4)
. . . Online Applications (83)
. . . . Individual Schools (76)
. . . School Rankings (12)
. . . . Graduate (7)
. . . . . Law School@
. . . Test Preparation Companies@
. . . . Books@
. . . . Career Fields (79)
. . . . . Civil Service (5)
. . . . . Customs Broker (2)
. . . . . •Education (10)
. . . . . TEFL/TESL (9)
. . . . . Electrician (2)
. . . . . Engineering (2)

***Education**, continued*
. ***Higher Education**, continued*
. . *College Entrance*
. . . *Test Preparation Companies@*
. . . . *Career Fields (79)*

. . . . . Finance (29)
. . . . . . CFA (11)
. . . . . . CPA (8)
. . . . . . EA (1)
. . . . . . Insurance (2)
. . . . . . NASD (3)
. . . . . Health (18)
. . . . . . Medicine (11)
. . . . Boards (6)
. . . . USMLE (5)
. . . . . . Mental Health (1)
. . . . . . Nursing@
. . . . . Law (6)
. . . . . . Bar Examination (6)
. . . . . Military (1)
. . . . . Social Work (2)
. . . . College Entrance (26)
. . . . . AP (2)
. . . . . SAT (13)
. . . . . SAT II (1)
. . . . . Software (3)
. . . . GED (5)
. . . . Graduate School Entrance (25)
. . . . . GMAT (4)
. . . . . GRE (3)
. . . . . LSAT (4)
. . . . . MCAT (4)
. . . . Online Subscription Serv. (7)
. . . . Software (10)
. . . . . College Entrance@
. . . . TOEFL (7)
. . . . Videos (2)
. . . Web Directories (4)
. . **Colleges and Universities** (16861)
. . . By Region (15221)
SN A long list as above
. . . . Argentina@
. . . . Armenia@
. . .
. . **Distance Learning**@
. . . Business@
. . . . Graduate Programs@
. . . Community Colleges (20)
. . . Consortia (10)
. . . Credit for Prior Experience (6)
. . . Engineering@
. . . . . Graduate Programs (9)
. . . Graduate Programs (24)
. . . . Business@
. . . . Engineering@
. . . Web Directories (2)
. . **Graduate Education** (74)
. . . By Subject (49)
. . . . Accounting and Auditing@
. . . . American (United States) Studies@
. . . . Archaeology@
. . . . Arts@
. . . . Asian Studies@
. . . . Business Schools@
. . . . Classics@
. . . . Comparative Literature@
. . . . Conflict Resolution@
. . . . Cultural Studies@
. . . . Economics@
. . . . European Studies@
. . . . Film@
. . . . Finance@
. . . . First Nations Studies (Canada)@
. . . . Gender Studies@
. . . . History@
. . . . History & Philosophy of Science@
. . . . Human Ecology@
. . . . International Relations@
. . . . Irish Studies@
. . . . Japan Studies@
. . . . Journalism@
. . . . Latin American Studies@
. . . . Law Schools@
. . . . Library & Information Science@
. . . . Literature@
. . . . Marine Archaeology@
. . . . Mathematics@
. . . . Medical Schools@
. . . . Mexican American Studies@
. . . . Middle East Studies@
. . . . Peace and Conflict Studies@
. . . . Philosophy@
. . . . Physics@
. . . . Political Economy@
. . . . Political Science@
. . . . Psychology@
. . . . Public Administration@
. . . . Public Policy@
. . . . Recreation and Leisure Studies@
. . . . Rhetoric@
. . . . Russian & East European Studies@
. . . . Scandinavian Studies@
. . . . Science, Technology, & Society Studies@
. . . . Sexology@
. . . . Slavic Studies@
. . . . Social Work@
. . . . Women's Studies@
. . . Distance Learning@
. . . . Business@
. . . . Engineering@
. . . Electronic Theses & Dissertations (ETDs)@
. . . Graduate Record Exam@
. . . Organizations (6)
. . . Rankings@
. . . . Law School
. . . Web Directories (7)
. . **Guidance** (64)
. . . Academic Advising (2)
. . . College Entrance@
. . . . Admissions Offices (299)
. . . . Books@
. . . . Business Schools@
. . . . Companies@
. . . . Educational Standards & Testing@
. . . . Financial Aid@
. . . . Online Applications (83)
. . . . School Rankings (12)
. . . . Test Preparation Companies@
. . . . Web Directories (4)
. . . Medical School (34)
. . . . MCAT@
. . . . . Companies@
. . . . Medical Schools@
. . . . . MCAT@
. . . . . Medical Schools@
. . . . . Admissions & Guidance@
. . . . . . MCAT@
. . . . . . Medical Schools@
. . . . . . Student Organizations@
. . . . . . Web Directories (2)
. . . . . Caribbean Med. Schools (8)
. . . . . Dental Schools@
. . . . . . Orthodontic@
. . . . . Student Organizations@
. . . . . . Interns and Residents (3)
. . . . . . Optometry@
. . . . . Web Directories (2)
. . . . Student Organizations@
. . . . Web Directories (2)
. . Honors Programs (46)
. . **News and Media@**
. . . Individual Schools (419)
SN Long list of countries and US states
. . . . Australia@
. . . . Canada@
. . .
. . . . Alabama (4)
. . . . Arizona (3)
. . .
. . . Magazines (174)
. . . . Individual Schools (139)
. . . . . Alumni (40)
. . . . . Humor@
. . . . . Literary (52)
. . . Newspapers (436)
. . . . Business Schools (8)
. . . . Medical Schools (2)
. . . . Newswires@
. . . . Web Directories (2)

. . . Radio Stations@
. . . . Countries (13)
. . . . . Australia@
. . . . . Belgium@
. . . . . Cities@
. . . . . Provinces@
. . . . . Complete List@
. . . . . Brazil@
. . . . . Canada@
. . . . . Denmark@
. . . . . Ireland@
. . . . . New Zealand@
. . . . . Singapore@
. . . . . South Africa@
. . . . . Sweden@
. . . . . Switzerland@
. . . . . United Kingdom@
. . . . . Vietnam@
. . . . Eastern United States (168)
. . . . Internet Broadcasts@
. . . . Western United States (110)
. . Organizations (96)
. . . Alumnae/I Associations@
. . . Community College (9)
. . . Graduate Education@
. . . Transfer Student (3)
. . Policy Research Centers@
. . Seminaries@
. . . Christian@
. . . Jewish@
. . Student Life (25)
. . . Books@
. . . Classifieds@
. . . Organizations@
. . Web Directories (14)
. . . College Entrance@
. . . Colleges and Universities@
. . . Graduate Programs@
. **Instructional Technology** (327)
. . Conferences (23)
. . . Online Teaching and Learning@
. . . Past Events (2)
. . Institutes (47)
. . . College & University Departments (34)
. . Journals (9)
. . Online Teaching & Learning (167)
. . . Conferences (8)
. . . Corporate Programs (10)
. . . Courses (9)
. . . Educational MOOs (7)
. . . Magazines (3)
. . . Organizations (14)
. . . Papers (4)
. . . . Telementoring@
. . . Projects (20)
. . . . Higher Education (4)
. . . . Regional (4)
. . . . Virtual Field Trips@
. . . Research Institutes (3)
. . . Teacher Resources (43)
. . . . Companies@
. . . . . Email (2)
. . . . . English as a 2nd Language@
. . . . . Mathematics@
. . . . . Science@
. . . . . Social Studies@
. . . Telementoring (12)
. . . . Papers (2)
. . . . Web Directories (1)
. . . Web Directories (8)
. . . Telementoring@
. . WebQuests (19)
. . . Collections (8)
. . . Science@
. . . Social Studies@
. . School Technology Funding@
. . . Organizations (7)
. . . Programs (5)
. . Software Reviews@
. . . Titles (64)
. . . . College Preparatory (6)
. . . . Math@
. . . . Reading (23)
. . . . . Reader Rabbit (7)
. . Web Directories (6)
. **Journals** (33)
. . •Educational Theory@
. . Instructional Technology@
. . Music@
. **K-12** (52293)
. . **By Region** (27417)
. . . Countries (7635)
. . . Regions (9)
. . . U.S. States (19773)
. . **Academic Competitions@**
. . . Debate@
. . . . Clubs, Teams, & Societies (25)
. . . . . Lincoln-Douglas@
. . . . Institutes (2)
. . . . Policy Debate (7)
. . . . . 1998-99 Debate Topic (3)
. . . . . 1999-2000 Debate Topic (1)
. . . History@
. . . Mathematics@
. . . . International (6)
. . . Science@
. . . . International (4)
. . . . . Mathematics@
. . . . Mathematics@
. . . . . International (6)
. . . . Projects and Ideas (20)
. . . . . Science Project Books@
. . . . . Web Directories (2)
. . . Teams (13)
. . . . Debate@
. . . . . Lincoln-Douglas@
. . . . Forensics@
. . Arts@
. . . Curriculum Standards (27)
. . . . Dance@
. . . Drama@
. . . . Lesson Plan (4)
. . . . School Departments (10)
. . . Lesson Plans (17)
. . . . Theater@
. . . Schools (35)
. . . . Departments (5)
. . . Usenet (2)
. . Conferences (10)
. . **Countries** (41)
. . . Australia@
. . . Belgium@
. . . Brazil@
. . . Canada@
. . . Chile@
. . . China@
. . . Columbia@
. . . Costa Rica@
. . . Cyprus@
. . . Denmark@
. . . Egypt@
. . . Estonia@
. . . Ethiopia@
. . . France@
. . . Germany@
. . . Ghana@
. . . Greece@
. . . Hong Kong@
. . . India@
. . . Ireland@
. . . Israel@
. . . Italy@
. . . Japan@
. . . Korea, South@
. . . Macau@
. . . Malaysia@
. . . Malta@
. . . Mexico@
. . . Netherlands@
. . . New Zealand@
. . .
. . **Curriculum Standards** (65)
. . . By Region (52)
. . . . Canadian Provinces (8)
. . . . U. S. States (44)
. . . By Subject (13)
. . . . Agriculture@
. . . . Arts@
. . . . Business@
. . . . Dance@
. . . . English Language Arts@
. . . . Family and Consumer Sciences@
. . . . Health@
. . . . History@
. . . . Languages@
. . . . Library and Information Literacy@
. . . . Mathematics@

***Education**, continued*
. ***K-12** , continued*
. . . . Music@
. . . . Physical Education@
. . . . Science@
. . . . Social Studies@
. . Distance Learning@
. . . Home Schooling@
. . . . Christian@
. . Environment and Nature@
. . . Programs (18)
. . Gifted Youth (65)
. . . Schools (14)
. . Guidance Counseling (17)
. . . K-12 Offices (7)
. . . Organizations (3)
. . **Home Schooling@**
. . . Christian@
. . . . Companies@
. . . . . Publishers@
. . . . . Teaching & Learning Aids
. . . . . Curriculum (17)
. . . . . Used (3)
. . . . Distance Learning (11)
. . . . Organizations (10)
. . . . Usenet (2)
. . . Companies@
. . . . Administrative Software@
. . . . Books@
. . . . Christian Home Schooling (36)
. . . . . Publishers@
. . . . . Teaching & Learning Aids
SN This is its own category under Christian Home Schooling
. . . . . Curriculum (17)
. . . . . Used (3)
. . . . Publishers@
. . . . . Christian (9)
. . . . Teaching & Learning Aids@
SN This is a reference to the generic Teaching & Learning Aids (see above), not restricted to K-12, much less to Home Schooling
. . . Conferences (2)
. . . Curriculum (1)
. . . Distance Learning (8)
. . . Islamic@
. . . Magazines (10)
. . . Opposing Views (1)
. . . Organizations (37)
. . . . Christian@
. . . Personal Experience (7)
. . . Unschooling (6)
. . . Web Directories (11)
. . . Usenet (2)
. . **Humanities@**
. . . Classics@
. . . . Organizations (15)
. . . . . Student (15)
. . . . Teacher Resources (2)
. . . History@
. . . . Courses (15)
. . . . Curriculum Standards (5)
. . . . Fairs and Competitions (3)
. . . . Social Studies@
. . . . . Archaeology@
. . . . . Companies@
. . . . . Presenters (4)
. . . . . Professional Development
. . . . . Teaching & Learning Aids
. . . . . Curriculum Standards (25)
. . . . . History@
. . . . . Lesson Plans (31)
. . . . . History@
. . . . . WebQuests (14)
. . . . . Organizations (13)
. . . . . Web Directories (6)
. . . . Teacher Resources (25)
. . . . . Classroom Projects (5)
. . . . . Lesson Plans (13)
. . . Literature@
. . . . Courses (4)
. . . . Reading@
. . . . . Children's Reading Lists@
. . . . . Young Adult@
. . . . . Companies@
. . . . . Professional Development
. . . . . Teaching & Learning Aids
. . . . . Lesson Plans (8)
. . . . . Literacy (37)
. . . . . Organizations (16)
. . . . . Organizations (5)
. . . . . Whole Language (3)
. . . . . Young Adult Reading Lists@
. . . . Teacher Resources (40)
. . . . . Classroom Projects (2)
. . . . . Lesson Plans (27)
. . . Philosophy@
. . Institutes (7)
. . **Issues** (31)
. . . Bullying@
. . . Class Size@
. . . Religion in Public Schools (24)
. . . . School Prayer (16)
. . . School Choice@
. . . School Phobia@
. . . . Shyness@
. . . School Violence@
. . . . Organizations (10)
. . . . School Shootings (80)
. . **Mathematics@**
. . . Academic Competitions (22)
. . . Courses (1)
. . . . Statistics@
. . . Curriculum Standards (38)
. . . Exercises@
. . . . Algebra@
. . . . Geometry@
. . . . Online Equation Solvers (11)
. . . . . Online Cryptarithmetic & Alphametic Puzzle Solvers@
. . . . Pre-Algebra@
. . . Organizations (6)
. . . Programs (26)
. . . . Magnet Schools@
. . . . Summer (7)
. . . School Departments (8)
. . . Teaching (32)
. . . . Lesson Plans (12)
. . Newspapers (142)
. . . Individual School Papers (130)
. . **Organizations** (202)
. . . Administrators@
. . . Alternative (7)
. . . Alumnae/I Associations@
. . . . Reunions@
. . . . . Alumnae/I Associations@
. . . Business@
. . . Charter School@
. . . Computer Clubs@
. . . Home Schooling@
. . . International Schools@
. . . Lesbian, Gay, and Bisexual@
. . . Parent@
. . . Reading@
. . . . Literacy@
. . . School Associations (24)
. . . School Board Associations (13)
. . . School Funding@
. . . Social Studies@
. . . Violent Crime Prevention@
. . Parental Involvement@
. . Physical Education@
. . Programs (124)
. . Reading (66)
. . Religion@
. . School Funding (29)
. . Schools (23726)
. . Science@
. . Social Science@
. . Social Studies (111)
. . Student Resources (30)
. . Teaching (153)
. . Teaching & Learning Aids@
. . Web Directories (23)
. . Usenet (22)
. **Literacy** (12)
. . Adult & Continuing Education@
. . K-12@
. . Media Literacy@
SN Following various branches of the hierarchy
. . . Culture Jammers@
. . . . Anarchism@
. . . . . Magazines (7)
. . . . . United Kingdom@
. . . . . United States@
. . . . . Political Theory@

. . . . . History (11)
. . . . . Spanish Civil War@
. . . . . Libraries (6)
. . . . . Organizations@
. . . . . People (28)
. . . . . Situationists@
. . . . . Bakunin, Mikhail Aleksandrovich (1814-1876)@
. . . . . Bookchin, Murray (1921-) (5)
. . . . . Chomsky, Noam@
. . . . . Durruti, Buenaventura (1896-1936)@
. . . . . Godwin, William (1756-1836) (3)
. . . . . Goldman, Emma (1869-1940)@
. . . . . Kropotkin, Peter (1842 - 1921) (4)
. . . . . Makhno, Nestor (1889-1934)@
. . . . . Malatesta, Errico (1853-1932) (2)
. . . . . Michel, Louise (1830-1905)@
. . . . . Parsons, Lucy (1853-1942) (3)
. . . . . Prominent Anarchists & Left-Libertarians -
. . . . . Proudhon, Pierre-Joseph (1809-1865) (2)
. . . . . Stirner, Max (1806-1856)@
. . . . . Political Opinion@
. . . . . Web Directories (3)
. . . . . Publishers@
. . . . Anti-Television@
. . . . Cacophonists@
. . . . Guerilla Art@
. . . . . Billboard Liberation (3)
. . . . . Culture Jammers@
. . . . . Graffiti@
. . . . . Anti-Graffiti (6)
. . . . . Companies@
. . . . . Exhibits (77)
. . . . . Magazines (11)
. . . . . Virtual Graffiti (4)
. . . . . Writers and Crews (38)
. . . . . Postering (6)
. . . Youth Audience Issues (10)
. . . . Television Ratings@
. . Organizations (9)
. **News and Media** (84)
. . Books@
. . . Retail@
. . . . Publishers@
. . . . . Academic@
. . . . . College & Univ. Presses@
. . . . . Textbooks@
. . . . . Booksellers@
. . . . . Home Schooling Materials (21)
. . . . . Christian (9)
. . . . . Language Education@
. . . . . English as a 2nd Language
. . . . . Special Education Books (9)
. . . . . Supplementary Materials (91)
. . . . . Forensics and Debate (5)
. . . . . Teacher Aids (12)
. . . . . Textbooks (88)
. . . . . Vocational Training Books
. . . . Textbooks (43)
. . . . . Higher Education (53)
. . . . . K-12 (17)
. . . . Titles (98)
. . . Textbooks (8)
. . . . College & University Bookstores@
. . . . Science@
. . . . Used (19)
. . . Titles@
. . . . Administration (2)
. . . . College and University (26)
. . . . . Admissions (10)
. . . . . Athletic Recruiting@
. . . . . Financial Aid (6)
. . . . . University Life (4)
. . . . Distance Learning (3)
. . . . Educating Your Child@
. . . . Home Schooling (8)
. . . . Reform (3)
. . . . School Directories (4)
. . . . Study Guides (7)
. . . . Teaching (21)
. . . . . Reading (9)
. . . . Test Preparation (13)
. . College and University@
. . . Individual Schools (410)
. . . Magazines (175)
. . . . Individual Schools (139)
. . . Newspapers (437)
. . . . Business Schools (8)
. . . . Medical Schools (2)
. . . . Newswires@
. . . . Web Directories (2)
. . . Radio Stations@
. . . . Countries (12)
. . . . Eastern United States (169)
. . . . Internet Broadcasts@
. . . . Western United States (110)
. . Journals@
. . . •Educational Theory@
. . . Instructional Technology@
. . . Music@
. . . . Musicology@
. . . . . Ethnomusicology@
. . Magazines (50)
. . . College and University@
. . . . Individual Schools (139)
. . . English as a Second Language@
. . . Home Schooling@
. . . Online Teaching and Learning@
. . Newsletters (12)
. . Newspapers (3)
. . . College and University@
. . . . Business Schools (8)
. . . . Medical Schools (2)
. . . . Newswires@
. . . . Web Directories (2)
. . . K-12@
. . . . Individual School Papers (130)
. . Policy@
. . Television@
. . . Distance Learning@
. . . . Educational Programs@
. . . . Television Curriculum (5)
. . . High School Stations@
. . . Shows@

•***Education***, continued

. **Organizations** (2945)
. . Alumnae/I Associations (459)
. . . Colleges and Universities (207)
. . . High Schools (239)
. . . . Reunions@
. . . Reunions@
. . . . College and University (8)
. . . . High Schools (274)
. . Arts@
. . . College and University@
. . Business@
. . . Case Research (4)
. . . College and University@
. . . K-12@
. . Christian@
. . . Catholic@
. . . Home Schooling@
. . . Student (171)
. . . . Baptist@
. . . . Catholic@
. . . . Church of Christ@
. . . . Fraternities and Sororities (20)
. . . . Presbyterian@
. . . . Presbyterian Church in America@
. . . . United Methodist Church@
. . Early Childhood Education@
. . Equity@
. . Financial Aid@
. . **Higher Education@**
. . . Alumnae/I Associations@
. . . Community College (9)
. . . Graduate Education@
. . . Transfer Student (3)
. . **K-12@**
. . . Administrators@
. . . Alternative (7)
. . . Alumnae/I Associations@
. . . Business@
. . . Charter School@
. . . Computer Clubs@
. . . Home Schooling@
. . . . Christian@
. . . International Schools@
. . . Lesbian, Gay, and Bisexual@
. . . Parent@
. . . Reading@
. . . . Literacy@
. . . School Associations (24)
. . . School Board Associations (13)
. . . School Funding@
. . . . Technology Funding@
. . . Social Studies@
. . . Violent Crime Prevention@
. . Languages@
. . . English as a Second Language@
. . . . Student (1)
. . . . Teaching@
. . Lesbian, Gay and Bisexual@
. . Literacy@
. . Math@
. . Music@
. . . Teaching@
. . . . Kodaly Method@
. . Online Teaching and Learning@
. . Policy@
. . Professional (197)
. . . Administrators (23)
. . . Consultants (2)
. . . Faculty (19)
. . . Unions (77)
. . Reading (8)
. . Reform@
. . Rural Education@
. . Science@
. . . Engineering@
. . Student (2131)
. . . Animal Rights@
. . . Anthropology@
. . . Architecture@
. . . Community Service@
. . . Computer Science@
. . . Cultural (361)
. . . . African (2)
. . . . African-American@
. . . . Arabic (5)
. . . . Armenian (8)
. . . . Asian American (23)
. . . . Azerbaijani (1)
. . . . Bangladesh (4)
. . . . Bosnian (2)
. . . . Brazilian (2)
. . . . Cambodian (1)
. . . . Caribbean (3)
. . . . Chinese (23)
. . . . Cypriot (2)
. . . . Egyptian (2)
. . . . Filipino (6)
. . . . Finnish (1)
. . . . Haitian (2)
. . . . Hawaiian (3)
. . . . Hellenic (27)
. . . . Hispanic and Latino (32)
. . . . . Law@
. . . . Indian (21)
. . . . Indonesian (14)
. . . . Italian (3)
. . . . Japanese (2)
. . . . Korean (24)
. . . . Lebanese (3)
. . . . Malaysian (16)
. . . . Mexican (3)
. . . . Multicultural (7)
. . . . Native American@
. . . . Pakistani (9)
. . . . Romanian (8)
. . . . Scandinavian (1)
. . . . Singaporean (29)
. . . . Sri Lankan (2)
. . . . Taiwanese (12)
. . . . Thai (21)
. . . . Turkish (12)
. . . . Vietnamese (22)
. . . Economics@
. . . . Accounting and Auditing@
. . . Engineering@
. . . . Materials Science@
. . . . Mechanical Engineering@
. . . Environmental@
. . . European Union@
. . . . Austria@
. . . . Germany@
. . . . Government (1)
. . . . Netherlands@
. . . Fraternities and Sororities (1443)
. . . . Apparel@
. . . . Christian@
. . . . Collectibles@
. . . . Directories (4)
. . . . Hazing (2)
. . . . Professional (128)
. . . . . Music@
. . . . Service (138)
. . . . Social (1154)
. . . . . Interfraternity Councils (14)
. . . . Usenet (3)
. . . Government (90)
. . . . Graduate (13)
. . . . High School (4)
. . . Homelessness@
. . . Honor Societies (74)
. . . Law@
. . . . Hispanic and Latino (7)
. . . . Pre-Law Societies (2)
. . . . Women@
. . . Lesbian, Gay, and Bisexual@
. . . . Alumni Associations (9)
. . . . Campus Support Offices@
. . . Medical@
. . . . Interns and Residents (3)
. . . . Optometry@
. . . Nursing@
. . . Political (24)
. . . . Democratic Party@
. . . . Federalist Society@
. . . . Libertarian Party@
. . . . Reform Party@
. . . . Republican Party@
. . . . Young Americans for Freedom
. . . Religious (5)
. . . . Christian@
. . . . Hindu@
. . . . Islamic@
. . . . Jewish@
. . . . Sikh@
. . . Residence Hall Associations (9)
. . . Web Directories (2)
. . Student Affairs (15)

. . . Web Directories (1)
. . Trade Associations (3)
. . Vocational Education@
. . . Private Industry Councils@
. . . Training & Enterprise Councils@
. . Women@
. . . Law@
. **Policy** (52)
. . College & Univ. Dpts & Programs
. . News and Media (3)
. . Organizations (6)
. . Research Centers (23)
. . . Higher Education (6)
. **Programs** (309)
. . Co-operative Programs (8)
. . K-12@
. . . Environment and Nature@
. . . National Guard Youth Challenge Program@
. . . . STARBASE (3)
. . . Student Exchange@
. . . . Study Abroad@
. . . . . Companies@
. . . . . Student Exchange@
. . . . . Admissions@
. . . . . Counseling@
. . . . . Credential Evaluation (8)
. . . . . Financial Aid@
. . . Summer Programs (56)
. . . . Learning Disabilities@
. . . . Math@
. . . . Science (22)
. . . . . Math@
. . Model Congress@
. . Model United Nations@
. . . College and University (35)
. . . . Events (12)
. . . Events (2)
. . . . College and University@
. . . . High School@
. . . High School (33)
. . . . Events (16)
. . National Writing Project (27)
. . Student Exchange (78)
. . Study Abroad (157)
. . Summer Programs (18)
. . . K-12
. **Reform** (67)
. . Books@
. . Class Size (6)
. . Organizations (35)
. . School Choice (9)
. **Special Education** (167)
. . Companies@
. . . Administrative Software@
. . . Teaching & Learning Aids (5)
. . . . Publishers@
. . Conductive Education (19)
. . . Organizations (4)
. . . Schools and Institutes (14)
. . Employment@
. . Inclusion (7)
. . Institutes (29)
. . . College and Univ. Departments
. . . Conductive Education
. . Learning Disabilities@
. . . Attention Deficit Disorder@
. . . . Companies@
. . . . Conferences (1)
. . . . Organizations (8)
. . . . Web Directories (2)
. . . Companies@
. . . . Attention Deficit Disorder@
. . . . Dyslexia@
. . . Dyslexia@
. . . . Organizations (12)
. . . . Shopping and Services@
. . . Dysphagia@
. . . Dyspraxia@
. . . Gifted & Learning Disabled (16)
. . . Institutes@
. . . . College & Univ. Departments
. . . . Conductive Education@
. . . Organizations (20)
. . . . Dyslexia@
. . . Schools (31)
. . . . K-12@
. . . . Summer Programs (3)
. . . . U.S. Boarding Schools (9)
. . . Organizations (18)
. . . . Conductive Education@
. . Schools (69)
. . . Adult & Continuing Education@
. . . Colleges and Universities (3)
. . . Conductive Education@
. . . Early Education (16)
. . . . Schools for the Blind@
. . . . Schools for the Deaf@
. . . K-12 (46)
. . . . Learning Disabilities
. . . . Schools for the Blind@
. . . . Schools for the Deaf@
. . . Schools for the Blind@
. . . Schools for the Deaf@
. . Web Directories (3)
. . Usenet
. **Standards and Testing** (63)
. . ACT (1)
. . GED (2)
. . . GED Preparation Companies@
. . GMAT (3)
. . GRE (3)
. . IELTS@
. . K-12 Curriculum Standards@
. . . By Region (55)
. . . By Subject (14)
. . . . Agriculture@
. . . . Arts@
. . . . Business@
. . . . Dance@
. . . . English Language Arts@
. . . . Health@
. . . . History@
. . . . Languages@
. . . . Library & Information Literacy@
. . . . Mathematics@
. . . . Music@
. . . . Physical Education@
. . . . Science@
. . . . Social Studies@
. . LSAT (4)
. . MCAT (5)
. . . Comapnies@
. . Occupational Standards@
. . . Australian Qualific Framework@
. . . U.K. Natl Vocational Qualific.@
. . . U.S. National Skill Standards (5)
. . SSAT (1)
. . Test Preparation Companies@
. . Testing Companies@
. . . Computer-Based Testing Serv.
. . . Software@
. . TOEFL@
. . TOEIC@
. . Voluntary National Testing (4)
. **Statistics** (6)
. **Teaching** (91)
. . Arts@
. . **Curriculum** (9)
. . . Companies@
. . . . By Subject (9)
. . . . . Art@
. . . . . Computers and Technology@
. . . . . Health and Fitness@
. . . . . Languages@
. . . . . Life Skills@
. . . . . Mathematics@
. . . . . Reading and Writing@
. . . . . Science@
. . . . . Social Studies@

•***Education***, *continued*
. ***Teaching*** *(91)*
. . *Arts@*
. . *Curriculum (9)*
. . . *Companies@*

. . . . Christian Home Schooling@
. . . . Preschool (9)
. . . . School Reform (2)
. . . . Textbooks@
. . . . . Retail
. . . . . Used (3)
. . . Home Schooling@
. . . K-12 Lesson Plans@
. . . . Arts@
. . . . History@
. . . . Literature@
. . . . Math@
. . . . News and Current Events (5)
. . . . Reading@
. . . . Science@
. . . . Social Studies@
. . . . Television Curriculum@
. . . . Theater@
. . . . WebQuests@
. . . . Writing@
. . Early Childhood Education@
. . English@
. . . English as a Second Language@
. . Evaluation (4)
. . Forums (3)
. . International Teaching (7)
. . . English as a Second Language@
. . . International Schools@
. . Internet@
. . . Comapnies@
. . **K-12@**
. . . Lesson Plans (51)
. . . . Arts@
. . . . . Theater@
. . . . History@
. . . . Literature@
. . . . Math@
. . . . News and Current Events (5)
. . . . Reading@
. . . . Science@
. . . . Social Studies@
. . . . . History
. . . . . Webquests (15)
. . . . Television Curriculum@
. . . . Theater@
. . . . WebQuests@
. . . . . Collections (8)
. . . . . Science@
. . . . . Social Studies@
. . . . Writing@
. . . School Library Resources@
. . . . Children's Literature@
. . . . Young Adult Literature@
. . . Substitute Teaching (6)
. . . Teacher Certification (53)
. . . . U. S. States (50)
. . . Web Directories (24)
. . Math@
. . . Organizations (7)
. . . Professional Development Services (@)
. . Music@
. . . Organizations (40)
. . . Web Directories (3)
. . Online Teaching and Learning@
. . . . Conferences (8)
. . . . Corporate Programs (10)
. . . . Courses (10)
. . . . Educational MOOs (7)
. . . . Magazines (3)
. . . . Organizations (14)
. . . . Papers (4)
. . . . Projects (20)
. . . . Research Institutes (3)
. . . . Teacher Resources (45)
. . . . Telementoring (12)
. . . . Web Directories (8)
. . . . WebQuests (19)
. . Science@
. . . Science@
. . . Biology@
. . . . Lesson Plans (32)
. . . . . WebQuests (9)
. . . . Space@
. . Teacher Education (24)
. . . College & Univ. Departments@
. . . Distance Learning@
. . . Montessori Method@
. . . Professional Development Services@
. . . Teacher Certification@
. . . College & University Departments@
. . . Distance Learning@
. . . Montessori Method@
. . . Professional Dev. Serv.@
. . . Teacher Certification@
. **Theory and Methods** (644)
. . Block Scheduling (6)
. . Character Education (18)
. . . Articles and Papers (4)
. . . Bibliographies (3)
. . . Companies@
. . . Institutes (1)
. . Charter Schools (15)
. . . Organizations@
. . Critical Thinking@
. . . Logic@
. . Experiential Education (4)
. . Feminist Pedagogy (6)
. . Home Schooling (113)
. . Institutes (240)
. . . College & Univ. Departments
. . . Early Childhood Education@
. . . K-12@
. . Journals (6)
. . Libraries (24)
. . Montessori Method (146)
. . . Schools
. . . Teacher Education
. . Multiple Intelligences@
. . Service Learning (10)
. . Theorists (12)
. . . Dewey, John@
. . . Freire, Paulo (8)
. . . Montessori, Maria (2)
. . . Steiner, Rudolf@
. . Waldorf Method (50)
. . . Schools@
. . WebQuests@
. **Web Directories** (45)

Entertainment

SN Cool Links, Movies, Humor, Music ...
. **Consumer Electronics**
. . Audio
. . . MP3 Players
. . . . ▸Automotive (9)
. **Humor** (4865)
. . ▸Cars (40)
. . •Education (43)
. . ▸Traffic Cones (2)
. **Music**
. . •Education
. . . By Instrument (3)
. . . Camps (29)
. . . Conferences (4)
. . . Courses and Lessons (8)
. . . Ear Training (5)
. . . Festivals (9)
. . . Jazz@
. . . Journals (2)
. . . K-12 Curriculum Standards (6)
. . . Kodály Method (18)
. . . Organizations (17)
. . . Schools (267)
. . . Shopping and Services@
. . . Suzuki Method (10)
. . . Teaching (50)
. . . Web Directories (6)
. . Instruments
. . . Stringed Instruments
. . . . Guitar
. . . . . •Education

Government

SN Elections, Military, Law, Taxes...

. **Law**
SN No narrower category Transportation
. . •Continuing Legal Education
. . . Companies@
. . . Court Reporting@
. . . Law Schools@. .
. **Military** (867)
. . Weapons and Equipment (269)
. . . ▸Aircraft@
. . . ▸Armored Vehicles (17)
. . . ▸Ships (9)
. **U.S. Government**
. . Executive Branch
. . . Departments and Agencies
. . . . •Department of Education
. . . . ▸Department of Transportation
. . Military
. . . •Training and Education (18)
. . . Navy
. . . . ▸Fleets and Ships (247)
. . . . ▸Submarines (83)
. . . . •Training and Education
. . State Government
. . . Massachusetts@
. . . . •Department of Education
. . . . ▸Department of Transportation

Health

SN Medicine, Diseases, Drugs, Fitness ...

. **Alternative Medicine** (499)
. . Apitherapy (6)
. . Applied Kinesiology (8)
. . Aromatherapy (14)
. . . Companies@
. . . Organizations (3)
. . Ayurveda@
. . . Companies@
. . . . Herbal Supplements@
. . . . . Brand Names (8)
. . . . Products@
. . Biofeedback (8)
. . . Companies@
. . Booksellers@
. . . Titles (33)
. . . . Herbs (3)
. . . . Massage (3)
. . . . Yoga@
. . Breathwork (9)
. . . Companies@
. . . . Holotropic (3)
. . . . Rebirthing (5)
. . . . Vivation (1)
. . . Rebirthing (6)
. . . . Companies@
. . Business to Business
. . . Massage Therapy (132)
. . . Equipment and Supplies (33)
. . . . Manufacturers (14)
. . . Training and Development (97)
. . . . Massage Therapy@
. . Buteyko@
. . . Companies@
. . Chinese Medicine
. . . Acupuncture (24)
. . . . Companies@
. . . . . Electro-acupuncture (6)
. . . . . Software@
. . . . . Supplies (5)
. . . . Organizations (13)
. . . Chinese Herbs@
. . . . Brand Names (26)
. . . Kombucha (3)
. . . . Products@
. . . Medical Schools (28)
. . . Qigong (23)
. . . . Companies@
. . . . Falun Gong@
. . . . Organizations (16)
. . . . . International Yan Xin Qigong Association (7)
. . Chiropractic@
. . . Business to Business@
. . . . Equipment and Supplies (13)
. . . . . Manufacturers (2)
. . . . Internet Services (4)
. . . . Software (6)
. . . Journals (5)
. . . Professional Organizations (33)
. . . •Schools, Departments, & Programs (17)
. . . Shopping and Services@
. . . . By Region (963)
SN A long list of geographical. entities
. **•Education**
. . K-12 Curriculum Standards (24)
. . Medicine@
. . Midwifery@
. . Nursing@
. . Shopping and Services@
. **Emergency Services** (476)
. . Companies@
. . . ▸Air Ambulance Services (34)
. . . Supplies and Equipment
. . . . ▸Vehicles
. . . . . Ambulances

. **Fitness**
. . Aerobics (9)
. . . Jazzercise (3)
. . Books@
. . . Yoga@
. . Business to Business@
. . . •Career Training (13)
. . . . Yoga@
. . . Equipment Distributors (2)
. . . Equipment Manufacturers (30)
. . . Health Club Management Software (16)
. . Events (6)
. . Health Clubs@
. . . By Region (1060)
. . . Directories (2)
. . Indoor Rowing@
. . Institutes (8)
. . Magazines (16)
. . . Bodybuilding@
. . . Yoga@
. . Organizations (36)
. . . Professional@
. . •Physical Education (PE) (48)
. . . College & Univ. Departments
. . . K-12 (24)
. . . . Curriculum Standards (15)
. . . . Departments (1)
. . . . Organizations (2)
. . . Organizations (2)
. **Mental Health** (755)
. . Bereavement (56)
. . . ▸Aircraft Accident Support (1)
. **Nutrition**
. . Institutes (49)
. . . •Schools, Departments, & Programs (31)
. **Public Health and Safety** (2206)
. . ▸Driving Safety@
. . ▸Helmets (4)
. . Injury Prevention (20)
SN No X-ref to Accidents.
. ▸**Travel Health and Medicine** (24)
. . Deep Vein Thrombosis@
. . Jet Lag@
. . Motion Sickness@
. . Shopping and Services@
. . Tropical Diseases@
. . . Cholera@
. . . Dengue Fever@
. . . Ebola@
. . . Giardia@
. . . Hepatitis@
. . . Lassa Fever@
. . . Leprosy@
. . . Malaria@
. . .

News and Media
SN Full Coverage, Newspapers, TV
. **Industry Information**
. . Journalism
. . . •Education
. . . . Career and Continuing (5)
. . . . College and University (96)
. . . . Organizations (4)
. . . . Web Directories (1)
. . •Media Education
. . . Broadcasting@
. . . Career and Continuing (3)
. . . College and Univ. Departments
. . . Journalism@
. ▸Automotive@
. •College and University (898)
. Traffic and Road Conditions@
. ▸Transportation@
. ▸Travel@

Recreation & Sports
SN Sports, Travel, Autos, Outdoors
. ▸**Automotive**
. . Alternative Fuel Vehicles (147)
. . Audio (33)
. . Auto-Free Transportation@
. . Booksellers@
. . British Cars (45)
. . Bumper Stickers (4)
. . Business to Business@
. . Buyer's Guides (44)
. . Car Art@
. . Charitable Vehicle Donation (9)
. . Chats and Forums (51)
. . Classic Cars (145)
. . Classifieds@
. . Clubs and Organizations (177)
. . Concept Cars (10)
. . Driving (184)
. . . •Driving Schools@
. . Dune Buggies (16)
. . Electric Vehicles@
. . Emissions (21)
. . Employment (2)
. . Engineering@
. . Events and Shows (58)
. . Famous Cars (30)
. . Financing (8)
. . Four Wheel Drive (111)
. . Hearses (16)
. . History (88)
. . Humor@
. . Industry Information@
. . Kit Cars (22)
. . Lemon Law@
. . License Plates (39)
. . Licensing and Registr. Agencies
. . Lowriders (63)
. . Maintenance (13)
. . Makes and Models (2968)
. . Model Cars@
. . Motorcycles (1012)
. . . Pictures
. . Museums@
. . News and Media (113)
. . Police Vehicles@
. . Racing@
. . Recreational Vehicles@
. . Shopping and Services@
. . Software (2)
. . Special Needs@
. . Sport Utility Vehicles (48)
. . Station Wagons (28)
. . Technicians (3)
. . Theft@
. . Travel@
. . Trucks (49)
. . Web Directories (16)
. . Women (8)
. . Wrecks (4)
. . FAQs (3)
. **Dance**@
. . •Education
. **Hobbies** (3034)
. . Models (615)
. . . ▸Aircraft (216)
. . . ▸Armored Fighting Vehicles
. . . ▸Boats and Yachts (57)
. . . ▸Cars (73)
. . . ▸Motorcycles (1)
. . . ▸Radio-Controlled (13)
. . . ▸Trains and Railroads (175
. ▸**Motorcycles**@
. **Sports**
. . •College and University
. . •Physical Education@
. . Science
. . . •Education
. ▸**Travel**
. . Air Travel
. . . Airlines@
. . . . United Airlines
. . . . . •Education

Reference
SN Libraries, Dictionaries, Quotations ...
. . Libraries
. . . Library & Information Science
. . . . •Education
. . . . . College and University (55)
. . . •Education Libraries@
. . . ▸Transportation Libraries@

Regional
SN Countries, Regions, US States
. **U.S. States**
. . **Massachusetts**
. . . Massachusetts Locations
. . . . Metropolitan Areas
. . . . . Boston Metro
. . . . . Business and Shopping
. . . . . Shopping and Services
. . . . . ▸Automotive
. . . . . •Driving Schools
. . . . Counties and Regions
. . . . Cities
. . . . . **Boston**
. . . . . Local Web Directory
. . . . . Business & Shopping
. . . . . Community
. . . . . •Education
. . . . . Adult, Career, & Continuing (16)
. . . . . Business to Business@
. . . . . Child Care Centers & Preschools@
. . . . . College & University
. . . . . Government Agencies
. . . . . K-12 (22)
. . . . . Language Schools (11)
. . . . . Organizations (25)
. . . . . Shopping & Services@
. . . . . Employment
. . . . . Entertainment & Arts
. . . . . Health
. . . . . News & Media
. . . . . Real Estate
. . . . . Recreation & Sports
. . . . . ▸Travel & Transportation
. . . . . Airports (4)
. . . . . Bicycle Advocacy@
. . . . . Car Rentals@
. . . . . Lesb., Gays, & Bisex.@
. . . . . Limos & Shuttles@
. . . . . Local Cruises@
. . . . . Local Guides (58)
. . . . . Lodging (71)
. . . . . Maps and Views (12)
. . . . . Mass Transit (8)
. . . . . Points of Interest (6)
. . . . . Restaurants@
. . . . . Taxi Services@
. . . . . Tour Operators@
. . . . . Traffic & Road Cond.
. . . . . Transportation Agencies
. . . . . Travel Agents@
. . . . . Travelogues (2)
. . . . . Marketplace
. . . . . Yellow Pages

. . . **State Web Directory**
. . . . Area Guides
. . . . Arts & Humanities
. . . . Business & Economy
. . . . Community & Culture
. . . . Computers & Internet
. . . . •Education

. . . . . Business to Business@
. . . . . Career and Vocational (3)
. . . . . College and University (96)
. . . . . K-12 (11)
. . . . . Organizations (6)
. . . . . Shopping and Services@
. . . . Employment
. . . . Entertainment
. . . . Government
. . . . Health
. . . . News & Media
. . . . Real Estate
. . . . Recreation & Sports
. . . . Science
. . . . Social Science
. . . . ▸Travel & Transportation
. . . . . Cities@
. . . . . Counties and Regions@
. . . . . Complete List@
. . . . . Airports (3)
. . . . . Car Rentals@
. . . . . Destination Guides (13)
. . . . . Highways and Roads (5)
. . . . . Lodging (8)
. . . . . Maps and Views (4)
. . . . . Mass Transit (3)
. . . . . Transportation Agencies (2)
. . . . . Transportation Organizations
. . . . . Travel Safety (1)
. . **New York**
. . . Cities
. . . . **New York**
. . . . . Business and Shopping
. . . . . Shopping and Services
. . . . . ▸Automotive
. . . . . •Driving Schools ***
. . . . . •Education
. . . . . Adult, Career, &Continuing
. . . . . Business to Business@
. . . . . Child Care Centers & Preschools@
. . . . . College & University (633)
. . . . . Events (2)
. . . . . Government Agencies (3)
. . . . . K-12 (115)
. . . . . Language Schools (18)
. . . . . English 2nd Language
. . . . . German (2)
. . . . . Italian (1)
. . . . . Spanish (2)
. . . . . Organizations (47)
. . . . . Primary and Secondary (1)
. . . . . Programs (7)
. . . . . Shopping and Services@
. . . . . ▸Travel & Transportation
. . **Washington, D.C.**
. . . •Education
. . . . Adult, Career, & Continuing
. . . . Business to Business@
. . . . Child Care Centers & Preschools@
. . . . College and University (427)
. . . . Events (4)
. . . . Government Agencies (1)
. . . . K-12 (467)
. . . . Language Schools (13)
. . . . . English as a 2nd Language
. . . . . French (2)
. . . . Literacy (1)
. . . . Organizations (98)
. . . . Programs (3)
. . . . Shopping and Services@
. . . . Special Education (13)
. . . ▸Travel & Transportation
. **Countries**
. . **Canada**
. . . •Education
. . . . Academic Competitions (8)
. . . . Adult and Continuing Education (22)
. . . . Bilingual (2)
. . . . By Culture or Group (41)
. . . . By Subject (11)
. . . . Career and Vocational (47)
. . . . Companies@
. . . . Conferences (5)
. . . . Correctional@
. . . . Distance Learning (23)
. . . . Early Childhood Education (8)
. . . . Employment (8)
. . . . Financial Aid (17)
. . . . Government Agencies (12)
. . . . Higher Education (239)
. . . . Instructional Technology (19)
. . . . Literacy (6)
. . . . News and Media (9)
. . . . Organizations (142)
. . . . Policy (2)
. . . . Primary and Secondary (498)
. . . . . Cities@
. . . . . Metropolitan Areas@
. . . . . Provinces and Territories@
. . . . . Complete List@
. . . . . Academic Competitions@
. . . . . Alternative (8)
. . . . . Arts@
. . . . . Curriculum Standards (9)
. . . . . Distance Learning@
. . . . . Environment and Nature@
. . . . . Gifted Youth (1)
. . . . . Home Schooling@
. . . . . Mathematics@
. . . . . Newspapers@
. . . . . Organizations (20)
. . . . . Parental Involvement@
. . . . . Physical Education@
. . . . . Programs (23)
. . . . . Reading (4)
. . . . . School Funding (3)
. . . . . Schools (373)
. . . . . Science@
. . . . . Social Science@
. . . . . Social Studies (7)
. . . . . Student Resources (10)
. . . . . Teaching (22)
. . . . . Teaching & Learning Aids@
. . . . . Web Directories (2)
. . . . Programs (34)
. . . . Reform (1)
. . . . Special Education (11)
. . . . Standards and Testing (8)
. . . . Teaching (11)
. . . . Theory and Methods (38)
. . . . Web Directories (5)
. . . ▸Travel & Transportation

Science

SN Animals, Astronomy, Engineering ...
. **Engineering** (4691)
. . ▸Aerospace Engineering@
. . ▸Automotive Engineering (36)
. . Civil Engineering (475)
. . . ▸Transportation (31)
. . . . Companies@
. . . . Institutes (25)
. . . ▸Tunnels@
. . •Education (304)
. . . . Courses (4)
. . . . Distance Learning (11)
. . . . Institutes (247)
. . . . Organizations (19)
. . . . Vocational Schools (11)
. . ▸Naval Engineering (3)
. **Mathematics**
. . •Education
. . . Academic Competitions (2)
. . . College and University (366)
. . . Companies@
. . . Conferences (3)
. . . Courses (4)
. . . Exercises@
. . . Gender Equity@
. . . K-12 (149)
. . . . Academic Competitions (22)
. . . . Courses (1)
. . . . Curriculum Standards (40)
. . . . Exercises@
. . . . Organizations (6)
. . . . Programs (27)
. . . . School Departments (8)
. . . . Teaching (31
. . . Organizations (28)
. . . Software@
. . . Teaching (32)
. . . Web Directories (3)

Social Science

SN Archaeology, Economics, Languages ...
. **Anthropology and Archaeology**
SN No narrower category Transportation
. **Linguistics & Human Languages** (2814)
. . Languages (2235)
. . . •Education (266)
. . . . Chinese@
. . . . English@
. . . . English as a 2nd Language@
. . . . French@
. . . . German@
. . . . Italian@
. . . . Japanese@
. . . . Russian@
. . . . Spanish@
. . . . College and University Departments (48)
. . . . Commercial Products@
. . . . Conferences (2)
. . . . Courses (19)
. . . . K-12 (28)
. . . . . Chinese@
. . . . . Curriculum Standards (20)
. . . . . English as a 2nd Language@
. . . . . French@
. . . . . German@
. . . . . Magnet Schools@
. . . . . Spanish@
. . . . Language Labs (7)
. . . . Language Schools (125)
. . . . Organizations (8)
. . . . Web Directories (9)
. . . Specific Languages
. . . . Chinese
. . . . . •Education
. . . . French
. . . . . •Education
. . . . German
. . . . . •Education

Society and Culture

SN People, Environment, Religion ...
. **Disabilities**
. . Assistive Technology (54)
. . . ▸Automotive (3)
. . . Universal Design@
. . Recreation and Sports
. . . ▸Travel
. . . . ▸Transportation Resources
. **Environment and Nature** (7070)
. . Pollution (204)
. . . Air (60)
. . . . ▸Auto Emissions@
. **Food and Drink**
. . Cooking
. . . •Culinary Education
. . . . Baking (7)
. . . . Vegetarian (4)
. **Religion and Spirituality**
. . Faiths and Practices
. . . Christianity
. . . . Denominations and Sects
. . . . . Catholic
. . . . . •Education
. . . . . Colleges and Universities
. . . . . K-12 (268)
. . . . . Organizations (14)
. . . . . Seminaries (13)
. . . Islam
. . . . Hajj
. . . . . Makkah@
. . . . . ▸Travel and Transportation

gold **Assignment 13.2LCC** ***Assigned: Apr. 13*** ***Due: Apr. 20***

Library of Congress Classification (LCC)

Much information inherited from Assignments 13.1-4 (page ~157 - 158)

Learning objectives	Inherited
Materials Inherited, specifics added	**Materials presenting all or parts of LCC** 1 LC Classification as available on *Classification Web* (accessible through Cataloger's Desktop) 2 Excerpts from LCC classes H and Z for Lecture 11.2 3 LCC volumes (schedules) (Any edition after 1980 will do). Check an academic Library near you 4 The full LCC outline (2003) at www.loc.gov/catdir/cpso/lcco/lcco.html (pdf, blue font) 5 Excerpts from classes H and Z for in-lecture exercise www.dsoergel.com/UBLIS571DS-11.2-2Lecture11.2InClassExercise13.2LCC-Excerpts.pdf **Exploration of LCC on *Classification Web***. p. ~299 -305
Readings Inherited, plus	Chan, Lois Mai **A guide to the Library of Congress Classification**. 5th ed. Englewood, Colo. : Libraries Unlimited, 1999. Z696.U4C47 1999 Check you nearest academic library p. 1-14 The history of the classification (optional) p. 14-19 Focus and use (required) p. 23-47 Principles, structure, and format (required, skim the examples). For further study, read more from this book. Good for principles, not for newest information. for example, Classification Web is not mentioned (it was not around then). Fundamentals of Library of Congress Classification. Manual for Trainees. ca 2007 www.loc.gov/catworkshop/courses/fundamentalslcc/pdf/classify-trnee-manual.pdf
Tasks Inherited, repeated for convenience	**1 Guided exploration** using the guide provided (p. ~299 - 305) 2 **Worksheet.** A good part of the worksheet will be done in Lecture 11.2. During the lecture, fill in the worksheet answers. After the lecture complete the remainder of the worksheet (if you chose LCC). **2 Indexing and query formulation** **3 Summary analysis**. Read and contemplate the **pre-filled Outline for the Analysis of Knowledge Organization Systems** (purple).
Deliverables Inherited	1 The worksheet answers 2 The Document Indexing Forms and the Query Forms, space for LCC filled in.
Time	6 hours

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Name:

LCC Worksheet

▸A - ▸D in Lecture 11.2, ▸E - ▸I on your own

1. General introduction	
Historical context	Why do you think **Military science** and **Naval science** were each given a whole letter of the alphabet in the LC scheme? Write Answer A here. ▸**A**
Explanation of call nos.	Note: Complete call numbers for books consist of two parts: The class number and a number for the author of the book, such as Z668.R6 Roberts, Library instruction (Z668 Library education, R6 Roberts) These author numbers are called *Cutter numbers* after their inventor. We will not deal with Cutter numbers in these assignments. The developers of LCC thought of another use for Cutter numbers when they ran out of numbers for specific subdivisions: They simply arranged subdivisions alphabetically (not necessarily the best thing in a *classification*) and used a Cutter number beginning with the first letter of the subject to extend the class number. For example, Z695.1.E3 Subject cataloging. Subject headings > By subject A-Z > Education Z695.1.E3E34 Thesaurus of ERIC descriptors (E34 for ERIC)
Study Class Z	Examine the LCC outline and some volumes (particularly classes H (1997 or 2002), L (1995 or 1998), and Z (1995). Examine the schedules and the tables (in the back). Examine the alphabetical index in the back of each volume but take heed: As with all other classifications you will use, do not classify books from the alphabetical index itself. Study class Z in the **Outline**. Then take out a copy of the Z schedule. Flip through it and note the general organization.
Find classes that are enumerated in the schedules	Give the class numbers for the following titles ▸**B** Bookbinder's Monthly: ▸**C** A Bibliography of Publishing through the Ages:

2. Building new classes using tables	
Explanation of tables	While LCC is a highly enumerative scheme, it does not enumerate every specific class. Some classes must be built from a main class in the schedule following instructions in a table. As in DDC there are two kinds of tables:
General table	A **general table**, printed at the end of an LCC volume, applies to several classes **in that volume** as specified in instructions (**not** to the entire classification, as in DDC)
Local table	A **local table**, printed in the schedules as a note for a specific class, applies only to the children of that class. These are mostly small tables, sometimes up to a page, often used after a general table has been applied.
Building new classes w general table	**Example 1. Book selling and publishing > By region or country** (vol. Z , p. 28)
	Example 1.1 History of Bookselling in France Z303-310 Book selling and publishing > France (Table Z7, p. 373) In Table Z7 we find 2 History. Biography Thus: **Z305 Bookselling in France. History** (Z303 + 2)
	Example 1.2
	Example 2. Banking (vol. H, 1997, p. 317) Banking By region or country **HG2701-3542.7 Other regions or countries (Table H8)** Add number in table toHG2700
	Example 2.1 Banking in Algeria In Table H8 we find *683 Algeria* (vol. H, p. 646) Thus, **HG3383 Banking in Algeria** (HG2700 + 683)
	Example 2.2 Banking in China In Table H8, 631-640 China (a number range) Thus: **HG3331-40 Banking in China** (HG2700 + 631-640) See next page on how to determine the specific number in this range.

General tables	**Table Z7** Add the appropriate number from this table to the first number of the classification number span to which the table applies.	**Table Z8** Add the appropriate number from this table to the first number of the classification number span to which the table applies.
	0 General Works	0 General Works
	1 Bibliography	0.2 Bibliography
	2 History. Biography	0.3 History. Biography
	3 Special lines of business (not A-Z)	0.4 Special lines of business (not A-Z)
	4 Directories	0.5 Directories
	5 Handbooks, manuals, etc.	0.6 Handbooks, manuals, etc.
	6 Periodicals. Societies. Congresses	0.7 Periodicals. Societies. Congresses
	7 Collections Local	0.8 Collections Local
	7.3.A-Z By state or region, A-Z	0.83.A-Z By state or region, A-Z
	7.6.A-Z By city, A-Z	0.86.A-Z By city, A-Z

Note on adding numbers from tables	**Note on adding numbers from tables in LCC** If the table numbering starts with 0, just add the number from the table to the base number in the schedules. If the table numbering starts with 1, add the number from the table and subtract 1. Either way, the first number built is the first number of the range given in the schedule.

Building new classes w local table	In Example 2.2, we did not arrive at an actual class number, but rather a range. We need to determine the subject more specifically to determine the specific class number. The instruction at HG2701-3542.7 actually goes on to say Under each, and then gives the local table shown opposite (reformatted here for easier reading) This table allows for subdividing each *Banking in country* class further. Not all countries are treated as equals. On some countries (such as France) there is a lot of material and LCC wants to provide for subdivisions with short numbers, so it uses a range of 20 numbers for such countries; on other countries (such as Algeria) there is little material and longer numbers are ok, so LCC uses just 1 number. In between are "10-number countries" and "5-number countries". Thus I have arranged the table in four columns. We can now construct the class for *History of Banking in China*: HG3331-40 Banking in China from above The table says to use the fourth number in this range, thus **HG3334 History of banking in China** *Recent history of banking in China* would fall under the same class On the other hand, consider the number for *Recent history of banking in France* In Table H8, France is 321-340, thus HG3021-40 Banking in France HG3026-8 History of banking in France **HG3028 Recent history of banking in France** *China. Banking in foreign countries* is HG3325, but *Algeria. Banking in foreign countries* is simply HG3383, same as *Banking in Algeria* Analyze these examples from the perspective of exhaustivity and specificity of indexing and the effects on retrieval. **▸D**

Local table to build numbers under HG2701-3542.7

Banking
By region or country --Continued

HG2701-3542.7	**Other regions or countries (Table H8)** Add [use a calculator, DS] number in table to HG2700 Under each:			
	20 nos.	**10 nos.**	**5 nos.**	**1 no.**
Periodicals. Serials	1	1	1	.A1-.A4
Societies, see HG 1507-HG1515				
Yearbooks	4	3		
Directories	5			.A5
History and Policy	6-8	4	2	.A6
General Works	6			
Biography, see HG 1552				
Early e.g., Great Britain to 1844; date may vary for different countries	7			
Recent	8			
Statistics (Monographs)	11			
Banking in foreign countries, foreign branches	12	5		
Central bank, national bank, banks of issue	14-16	6	3	.A7
General works, History and description, including reports	14			
Policy	15			
Administration	16			
Other banks, A-Z	18.A-Z	8.A-Z	4.A-Z	.A8A-Z
By region, A-Z	19.A-Z	9.A-Z	4.5.A-Z	.A85A-Z
By city, A-Z	20.A-Z	10.A-Z5	5.A-Z5	.A9-.Z5
Under each city:				
Yearbooks	.x	.x	.x	.x
General works Including history	.x2	.x2	.x2	.x2
Policy, etc.	.x3	.x3	.x3.	.x3
Individual banks, A-Z .	x4A-Z	.x4A-Z	.x4A-Z	.x4A-Z
Savings and loans associations	20.Z9A-Z	10.Z6A-Z	5.Z6A-Z	.Z6A-Z

2. **Building new classes using tables**, continued	
Build your own class numbers	The Proofreader's Handbook **E** Prison Libraries **F** Children's Book Publishing: **G** History of Bookselling in Germany: **H** History of Bookselling in Poland: **I**

Tables in DDC, LCC, and LCSH compared

	Dewey	**LCC**	**LCSH**
Global table (DDC and LCSH) **General table** (LCC)	Global tables in v.1 Apply to all classes	At end of each volume Apply only to classes within one main class	Standard subdivisions
Local table	In the schedule Apply to classes in a small section	In the schedule Usually apply to all classes built with a global table	
Apply subdivision from other part of the classification (add from)	In the schedule Apply to one place	Not used	Subheadings under a "pattern heading"

Library of Congress Classification and Subject Headings on Classification Web. Exploration.

Introduction	Classification Web is an electronic version of the Library of Congress Classification schedules and the Library of Congress Subject Headings. You should follow the navigation on the following pages to get a feel for the system, and use it to complete the queries on work sheets H and I. You are welcome to complete this assignment in groups. You may use Classification Web for any part of the LCC and LCSH assignments, but you should also gain some experience with using the printed volumes so that you can compare the two forms of presentation. To learn more, you can look at the Quick Start Tutorial at http://www.loc.gov/catdir/cpso/classwebtutorial/1intro.html A comparison between Dewey for Windows and Classification Web is instructive from a document design perspective.
Logon	Log-on information should have been sent to you in an e-mail. You did receive an email with instructions on how to sign up for a trial. If you did sign up, you can do this from any computer.

Reference	
H	Display classification hierarchy
R	Display classification or LCSH record. Click Close to return to the hierarchy display.
B	Display bibliographic records from selected OPACs for this class (in separate Window).
L	Display LC subject headings linked in LC authority records.
D	Display Dewey classes corresponding to this LC class.
S	Display subject headings frequently used with this class.
C	Display in classification browser
T	Display secondary table
N	Edit the local notes for this record (only shown if user is authorized).
E	Edit the authority record for the class (only shown if user is authorized).

A Navigation-based search of the Classification

	A1 General
General	Select **Enhanced Classification Browser** (near bottom of page). In the box **LC Class #**, type **L** and press [Enter]. Schedule *L1-991 Education* is displayed, towards the top of the screen. Using the box **LC Class #**, type in ***LB2411***. The box just above the main hierarchy display is called the **Hierarchy Frame**. It shows the hierarchical chain down to the highlighted class. For help with browsing and searching Classification Web, click the **Help** button near the bottom of the menu page. Specifically, follow the *Classification Browser* link under the **LC Classification** tab and read the *Classification Record Links* section. Use the information you learned there to find the Dewey Decimal correlation for *LB2411*.

	A2 Hyperlinks to cross-references
Hyperlinks to X-ref	Look at *Surveys of college graduates* (Before LB 2420. Double click on the cross-reference *HD6277* (blue). In LCSH you can also jump to a cross-referenced heading by a simple click. Examine schedule H around HD6277.

A3 The Hierarchy Browser (Click down the hierarchy)	
Hierarchy Browser	You may need to click on Home before proceeding. Click on **Menu.** Click on **Hierarchy Classification Browser**. Using the box LC Class #, go to ***L***. Click on **>** to see more of the outline for L, again to see still more. Click on **<** until you get back to the original screen (approximately). Click on LB1-3640 *Theory and practice of education*. Use **>** to find *LB1554.2-1602 Elementary or public school education. Elementary school teaching* and click on it Click on *LB1572-1602 Special branches*, check out that part of the hierarchy. If you like, you can repeat this little exercise starting with class H. Double-click on *HE1-9900 Transportation and communications.* Find *HE380.8-971 Water transportation* and double-click it. Double-click *HE380.8-560 Waterways*. Click in the Hierarchy Frame on *Water transportation* to go back to that level.

B Query-based search of the classification

In WebDewey there are a number of different fields to search, corresponding to different relationships between the search starting point (term or class number) and the classes to be found. In Classification Web, the only index that is really useful is the **Keyword index**. (The Help information says otherwise.) All examples in this exercise use **Boolean search.**

	B1 Start: establish settings
To start	Click on **Menu**, then on **Search LC Classification**. The **Help** is very helpful. If you want to learn more on how to search this system and about searching in general, read it! Click on *Search tips and options* to refine the search options. In the initial drop-down menu, select **100 records per page**. Under display options click **entire hierarchy**. (Unfortunately, the resulting display is somewhat hard to read since the entries are not separated by a blank line, but still the most useful.) Turn on the radio button for **boolean search**.

	B2 Example search: *computers in education*
Classification search	In the **Keyword** box, type "*computer*" and "education"* (* truncates). Click on **Search** at the bottom of the screen (not Browse). Now try "*computer*" and ("education" or "instruction" or "teach*" or "learning")*. Instead of 49 classes you now find 82. By clicking on the **LC number** you can jump into the hierarchy around the class found.

	B3 Subject heading search
Subject heading search	Click on **Menu**, then on **Search LC Subject Headings**. If you use the **Keyword** index, it works just like the classification search.

	B4 More search possibilities
Explore more	There are many more possibilities in this system. Experiment and/or read the help if you like. One feature that is particularly helpful is restricting the search to a part of the classification either by entering a class number in the **Classification number** box or by selecting a **Subset** (subset selection is effective for further searches until you remove all check marks in the subset selection screen. You might want to explore building numbers automatically (see the Quick Start Tutorial also accessible from the bottom of the menu page).

C Now complete query F Canals from the Query Forms

Do on your own.

List at least 7 important LCC classes from at least 3 different areas of the classification where one should look on the shelves (broad class implies subclasses) and 5 LCSH headings under which one should search.

Copy and paste into a word processor document; it is best to use
Edit > Paste special > Unformatted text

This ends the exercise. Explore some more on your own or close WebDewey.

See next page for further comments

Notes on Classification Web

The display of the hierarchy is very poor. It is even more difficult than in the printed schedule to follow the hierarchical levels by indention. Major divisions should be bolded.

Some lines are not classes that can be assigned but merely headings to organize the classification. These lines have no class numbers. It would be helpful to have numbers or number ranges in [].

Should use > instead of -- (easier for people who are used to Yahoo); also, the customary use of -- is in Main heading -- Subheading.

Displays do not scroll as expected.

The Hierarchy Browser does not use the standard Explorer-type interface for such displays.

The search for captions searches only the lowest level caption which for most cases is not what is most useful. The Keyword index is the only index that searches the entire chain down to the class (along with any other word in the record for the class, which may sometimes retrieve a bit more than is wanted.) (The **Caption** index or the **Index term** may serve some specialized uses at LC but most users can safely ignore them.)

Even though the unusual mandatory use of quotation marks around single words in Boolean searching suggests it, one cannot search for phrases.

The search results list gives the class number only the lowest level caption as the default; this is not helpful since the lowest level caption does not reveal the hierarchical context. Somebody familiar with LCC will have an idea what the class is about, but other users must click on R for every class found to get the picture.

The results list does not seem to be sorted in any particular order. It should be sorted by class number as the default.

Vocabulary: **LCC** Already filled in

Outline for the analysis of Knowledge Organization Systems

For some items, a section number from Soergel, Organizing information is given in ()

1. Purpose

1.1 **Information system** or type of information system in which to be used

Bibliographic information system. Intended for academic and research libraries and large public libraries.

1.2 **Intended for** controlled vocabulary indexing ⦿ or query term expansion ☐ (Ch. 12, Introduction)

1.3 **Type of file and search mechanism** for which originally designed
Shelving ⦿ Card catalog / printed index ☐ Online ☐

2. Coverage and designation of concepts. Coverage and format of terms

2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts

Universal - covers all knowledge. But focus on Western culture, esp. U. S.

2.2 **Concepts: Specificity**, depth of coverage (Section16.2.2). Coverage at each level of specificity.

Level of specificity varies (even among similar entities - e.g. 5 number countries vs. 20-number countries)

2.3 Are all necessary **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)

Some facets are reflected in general and local tables. Whether all facets for a subject, such as education, are included is impossible to say without extensive analysis because the facets are not explicit.

2.4 **Nature of notation** (if none, state that) (Section 15.5.2) *Alphanumeric notation, expressive on first two levels (two letters), then simply ordinal, at the very bottom it is again expressive (as in 675.P6 Prison libraries)*

2.5 **Terms**: Completeness of coverage of terminology (completeness of lead-in vocabulary). Recency of terms

No attempt at covering terminology. Terms often old.

2.6 **Form of terms**: Consistency, adherence to common usage. *No attempt to use common terminology. Terms often created for precise meaning of class.*

3. Terminological and conceptual analysis and conceptual structure.

3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Heading for 3.1 - 3.3)

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

Explicit only where tables used or where the semantic factors are obvious from the hierarchy

3.1.2 Hierarchical relationships (polyhierarchy). (Shown by arrangement or Broader Term / Narrower Term X-ref)

Monohierarchy with very few cross-references (cf.) for hierarchical relationships not shown by arrangement

3.1.3 Associative relationships (Implied by physical proximity in the arrangement or explicit Related Term X-ref)

Very few Related Term cross-references, subsumed under designation cf.

3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).

Very few usage notes

3.4 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship? *Not a goal in LCC.*

4. **Use of precombination in the index language** (concerns both 2 and 3) (Ch. 14, 15, esp. 15.4)

4.1 To what degree are the final descriptors assigned to documents, whether enumerated or built by the indexer, precombined? *Highly precombined*

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?

Highly enumerated (more than Dewey)

To what extent can the indexer build additional precombined descriptors?

Indexer can build more precombined classes by adding components from local and global tables.

Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to the arrangement of a classification) (Section 15.5.2)

Precombined descriptors have their own independent symbols. Combination order actually used by the editor varies. Often standard sequence of countries is used, with exceptions.

5. **Access and display**. **Format of presentation of the vocabulary**

For each format consider access/retrieval by concepts versus access/retrieval by terms.
Access can be provided through arrangement in a printed document or through a computer search system.

5.1 **Format of printed document** (Heading for 5.1.1- 5.1.3)

5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?

Divided into individual volumes by main class. Each volume has outline, main schedule of classes, sometimes global (volume-wide) tables, and an alphabetical index. Has outline to the entire classification, but no overall alphabetical index.

5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)

- through linear arrangement or graphical display (Section 15.5.2) *Almost exclusively*
- through cross-references (Section 14.1) *Very few*
- through descriptor-find index (Section 15.5.1) *No*

How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).

Concepts are arranged in a meaningful sequence in the major hierarchical sequence, but on the lowest level there is often alphabetical arrangement of subjects. In the Bibliographies by subject part in Z, subjects are arranged alphabetically.

5.1.2 Display of terminological relationships (Synonymous Term) *No lead-vocabulary included*

5.2 **Access through computer system**. Navigation. Format of on-line displays

Classification Plus. Searchable and cross-references are hyperlinks. (More detailed analysis omitted.)

Instructions for using the Library of Congress Classification

Indexing	Give one and only one class per document; if another class is a strong contender, list it as an alternate and give reasons for selecting the class you chose. (If there is no other class that would fit the document, leave the Alternate class blank.) For each class give the text as a hierarchical chain, starting with the main class, e.g. E814.M5 History/US/Elements in the population/Elements, A-Z/ Mexicans
Query formulation	Try to list **all** classes where one should look for relevant documents on the shelves; if there are more than 10 classes, list a representative sample (enough to demonstrate that you how to find all classes throughout all the LCC main classes). Note: A class implies all its narrower classes; no need to list these narrower classes, they can be readily seen from the schedules. Consider this example from volume H (1997), Section HD *Economic history and conditions*, p. 158 (reproduced in the materials for Assignment 11): HD 9710-9710.37 Automobiles. Motor Vehicles HD 9710 General works HD 9710.3 Automobile supply ... industry HD 9710.33 Limousines HD 9710.34 Buses HD 9710.35 Trucks HD 9710.37 Recreational vehicles HD 9710.38 Trailers Once you have specified HD9710-9710.37 *Automobiles. Motor Vehicles*, you need not individually specify the narrower classes HD9710.3 *Automobile supply ... industry*, HD9710.33 *Limousines*, HD9710.34 *Buses*, etc. The query formulation is the OR combination of all the classes or headings you list. (AND combinations are out: for shelving, only one class is assigned; while more than one class could be assigned for a classified catalog, LCC is not designed for combining class numbers in searching.) You may use the print version or the electronic version for all documents and queries. Questions H, *canals*, and I, *helicopters* (optional) are part of the Classification Web exercise. If you wish, you may try them in the print version as well for comparison.

Example of query formulation with LCC

Query topic: ***Teaching of science at all levels***

LB1532	Education > Theory and practice of education > Primary education > Branches of study > Special > Nature study. Science
LB1585-1585.7	Education > Theory and practice of education > Elementary or public school education > Special branches > Nature study. Science
Q160-161.2	Science > Science (general) > Textbooks
Q181.A1-183.4	Science > Science (general) > Study and teaching
Q190-197	Science > Science (general) > Audiovisual aids in science teaching
QB61-62.7	Science > Astronomy > Study and teaching. Research
QC20.8-20.82	Science > Physics > Mathematical physics > Study and teaching. Research
QC23	Science > Physics > **Elementary** textbooks
QC30-48	Science > Physics > Study and teaching. Research

etc.: Under every field of science (and some of their subfields), there are subdivisions such as *Textbooks* and *Study and teaching. Research*

Note on the example: As in Dewey, the combination order is as follows:

For primary and elementary education:	Education – Subject
For secondary or higher education:	Subject – Education
	(there are no subject-specific classes in LB1603-169.6 Secondary education. High schools).

But LCC has some exceptions to this general rule, as in the example of QC23.

Your own notes on query formulation with LCC

Summaries and Excerpts from the Library of Congress Classification

Top-level LCC outline p. ~313

Detailed outline p. ~314 - ~315

Outline of class L Education p. ~316 - ~317

Sample pages and sample tables p. ~318 -322

More sample pages with Lect. 8.1, Exploration of subject access (Lecture Notes, p. ~313 - ~ 338)

Library of Congress Classification

Broad Outline (Main classes)

A	General works
B	Philosophy. Psychology. Religion
C	Auxiliary sciences of history
D	History: General and outside the Americas
E-F	History of America
	E History: America General and United States General
	F History: United States local, Canada, and Latin America
G	Geography
H	Social sciences
J	Political science
K	Law
L	Education
M	Music and books on music
N	Fine arts
P	Language and literature
Q	Science
R	Medicine
S	Agriculture
T	Technology
U	Military science
V	Naval science
Z	Bibliography and library science

The following pages give first a detailed outline and then examples of classes dealing with or relevant to *transportation and traffic*.

In the detailed outline, each group of classes indicated by [on the left margin is in one volume of LCC.

Library of Congress Classification. Detailed Outline

A General works

- AC Collections. Series. Collected works
- AE Encyclopedias (General)
- AG Dictionaries and other General reference works
- AI Indexes (General)
- AM Museums (General). Collectors and collecting (General)
- AN Newspapers
- AP Periodicals
- AS Academies and learned societies (General)
- AY Yearbooks. Almanacs. Directories
- AZ History of scholarship and learning. The humanities

B Philosophy. Psychology. Religion

B-BJ Philosophy, incl. BF Psychology

- B Philosophy (General)
- BC Logic
- BD Speculative philosophy
- BF Psychology. Parapsychology. Occult sciences
- BH Aesthetics
- BJ Ethics. Social usages. Etiquette

BL-BX Religion

- BL Religions. Mythology. Rationalism
- BM Judaism
- BP Islam. Bahaism. Theosophy
- BQ Buddhism

BR-BX Christianity

- BR Christianity
- BS The Bible
- BT Doctrinal theology
- BV Practical theology
- [BX Christian denominations

C Auxiliary sciences of history

- C Auxiliary sciences of history (General)
- CB History of civilization
- CC Archaeology (General)
- CD Diplomatics. Archives. Seals
- CE Technical chronology. Calendar
- CJ Numismatics
- CN Inscriptions. Epigraphy
- CR Heraldry
- CS Genealogy
- CT Biography [General]

D History: General and Old World

- D History (General). Europe (General)
- DA Great Britain
- DAW Central Europe
- DB Austria, Hungary, Czech Republic, Slovakia
- DC France
- DD Germany
- DE Mediterranean region. Greco Roman World
- DF Greece
- DG Italy
- DH Netherlands (low Countries). Belgium, Luxemburg
- DJ Netherlands (Holland)
- DJK Eastern Europe
- DK Russia and former Soviet republics. Poland
- DL Northern Europe. Scandinavia
- DP Spain. Portugal
- DQ Switzerland
- DR Balkan peninsula
- [DS Asia
- DT Africa
- DU Oceania (South Seas) [Australia. New Zealand]
- DX Roma (Gypsies)

E-F History of America

- E1-143 America (General)
- E151-857 United States (Gen.)
- F1-957 United States: States and Local
- F1001-1140 Canada
- F1201- Other individual countries [mostly Latin America]

G Geography

G - GF Geography

- G Geography (General). Atlases. Maps
- GA Mathematical geography. Cartography
- GB Physical geography
- GC Oceanography
- GE Environmental sciences
- GF Human ecology. Anthropogeography
- GN Anthropology
- GR Folklore
- GT Manners and customs (General)
- GV Recreation. Leisure

H Social sciences

- H Social sciences (General)
- HA Statistics

HB-HJ Economics

- HB Economic theory. Demography
- HC- Economic history and
- HD conditions
- HE Transportation and communication
- HF Commerce
- HG Finance
- HJ Public finance

HM-HX Sociology

- HM Sociology (General and theoretical)
- HN Social history. Social problems. Social reform
- HQ The family. Marriage. Woman
- HS Societies: secret, benevolent, etc. Clubs
- HT Communities. Classes. Races
- HV Social pathology. Social and public welfare. Criminology
- HX Socialism. Communism. Anarchism

J Political science

- J General legislative and executive papers

JA-JC Political science

- JA Collections and general works
- JC Political theory

JF-JQ Political institutions and public administration

- JF General works. Comparative works
- JK United States
- JL Brit. America. Latin America
- JN Europe
- JQ Asia. Africa. Australia. Oceania
- JS Local government
- JV Colonies and colonization. Emigration and Immigration
- JX International law. International relations

No longer used at LC

K Law

- [K Law (General)
- [KD United Kingdom and Ireland
- [KDZ America. N.Am. (w/ KG,KH)
- [KE Canada
- [KF United States
- KG Central America, Caribbean
- KH South America
- [KJ-KKZ Europe (3 vols., KJV-KJW France, KK-KKC Germany)
- [KL-KWX [The rest of the world]

[Classes so grouped are in one volume

L Education

- L Education (General)
- LA History of education
- LB Theory and practice of educ.
- LC Special aspects of education

LD-LG Individual institutions

- LD United States
- LE America except United States
- LF Europe
- LG Asia, Africa, Oceania
- LH Coll. & school mag. & papers
- LJ Student fraternities and societies in the United States
- LT [Multi-subject] Textbooks

M Music and books on music

- M Music [instrumental and vocal]
- ML Literature of music
- MT Musical instruction and study

N Fine arts

- N Visual arts (General)
- NA Architecture
- NB Sculpture
- NC Drawing. Design. Illustration
- ND Painting
- NE Print media
- NK Decorative arts. Applied arts. Decoration and ornament
- NX Arts in General

P Language and literature (l&l)

- P Philology and linguistics (Gen.)
- PA Classical l&l (w. supplement)

PB-PH Modern European lang.

- PB Celtic languages and literature
- PC Romance languages

PD-PF Germanic languages

- PD Scandinavian. North Germanic
- PE English
- PF West Germanic
- PG Slavic. Baltic. Albanian l&l
- PH Finno-Ugrian. Basque l&l

PJ-PL Oriental languages & lit.

- PJ Oriental. Semitic
- PK Indo-Iranian
- PL L&l E. Asia, Africa, Oceania
- PM Hyperborean, Indian, and artificial languages
- [Index to languages & dialects

PN-PZ Literature

- PN Literary history and collections
- [PQ French & Romance lit. (1&2)
- PR English literature
- PS American literature
- [PT German & Germanic lit. (1&2)
- PZ Children's literature

[Language and literature tables

Q Science

- Q Science (General)
- QA Mathematics. [Computer science]
- QB Astronomy
- QC Physics
- QD Chemistry
- QE Geology

QH-QR Biology

- QH Natural history (General). Biology (General)
- QK Botany
- QL Zoology
- QM Human anatomy
- QP Physiology
- QR Microbiology

R Medicine

R-RL Medicine

- R Medicine (General)
- RA Public aspects of medicine
- RB Pathology
- RC Internal medicine. Practice of Medicine
- RD Surgery
- RE Ophthalmology
- RF Otorhinolaryngology
- RG Gynecology and obstetrics
- RJ Pediatrics
- RK Dentistry
- RL Dermatology

RM-RZ Allied disciplines

- RM Therapeutics. Pharmacology
- RS Pharmacy and materia medica
- RT Nursing
- RV Botanic, Thomsonian, and eclectic medicine
- RX Homeopathy
- RZ Other systems of medicine [Chiropractic. Osteopathy. Mental healing]

S Agriculture

- S Agriculture (General)
- SB Plant culture
- SD Forestry
- SF Animal culture
- SH Aquaculture. Fisheries. Angling
- SK Hunting

T Technology

- T Technology (General)

TA-TH General engineering and civil engineering

- TA General
- TC Hydraulic and ocean eng.
- TD Environmental technology, sanitary engineering
- TE Highway engineering
- TF Railroads
- TG Bridge engineering
- TH Buildings

TJ-TL Mechanical group

- TJ Mechanical engineering
- TK Electrical engineering. Nuclear engineering
- TL Motor vehicles. Aeronautics. Astronautics

TN-TR Chemical group

- TN Mining, metallurgy
- TP Chemical technology
- TR Photography

TS-TX Composite group

- TS Manufactures
- TT Arts and crafts. Handicrafts
- TX Home economics

U Military science

- U Military science (General)
- UA Armies: Organization, description, facilities, etc
- UB Military administration
- UC Maintenance and transportation
- UD Infantry
- UE Cavalry, armor
- UF Artillery
- UG Military engineering. Air forces. Air warfare
- UH Other services

V Naval science

- V Naval science (General)
- VA Navies: Org., descr., fac., etc
- VB Naval administration
- VC Naval maintenance
- VD Naval seamen
- VE Marines
- VF Naval ordnance
- VG Minor services of navies
- VK Navigation. Merchant marine
- VM Naval engineering. Ship building. Marine Engineering

Z Bibliography and library science.

- Z4-115 Books (General). Writing. Paleography
- Z116-659 Book industry & trade
- Z662-1000 Libraries. [Library science. Information science]
- Z1001-8999 Bibliography

LCC Education outline

LCC sample pages inserted here

LCC sample pages end on even

gold **Assignment 13.2DDC2** ***Assigned: Apr. 13***
Due: Apr. 20

Dewey Decimal Classification (DDC) 2

Learning objectives inherited from Assignments 13.1-4 (page ~157), other slots not inherited. This assignment is different from the others: I builds on the exploration of DDC in Assignment 13.1 to focus on the application of DDC in searching.

Learning objectives Inherited	Here in particular: Have started to learn to use some KOS used in American libraries for cataloging (indexing) and query formulation for searching. (P2.3.9,4.2#) Specifically DDC
Materials Not inherited	1 Questions from K-12 students. Find Dewey Decimal Classes under which to look. 2 Web Dewey 3 DDC volumes (preferably edition 23, but 22 and 21 will do) in a library near you
Readings Not inherited	None
Tasks Not inherited	For each question / topic give the Dewey classes (as expressed by their numbers) under which one should look to find relevant documents. Give the full class caption, such as 388.34|232 Ground transportation > Vehicular transportation > Vehicles > Taxicabs Also comment briefly on how you found those classes, how difficult it was (some of the classes may be easy to find, others more difficult). Comment on how easy or difficult it would be for a student to find the proper place(s) on the shelves; distinguish by level: elementary school / middle school / high school..
Deliverables Not inherited	The sheets with the task results. **R1- R12** required, any of O1- O30 optional
Time	6 hours

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Questions from K-12 students. Find Dewey Decimal Classes under which to look

For each topic, find the applicable Dewey class. Some classes may need to be "built" to incorporate all aspects of the topic.

Required R1 - R12

R1 Drawing books

R2 Cars

R3 Cows

R4 Record books (like the Guinness World Record books)

R5 Army/military books

R6 Dinosaurs

R7 Halloween or scary books

R8 Volcanoes outside the United States

R9 Gluten-free cookbooks for kids

R10 The roles women had during the Civil War

R11 Continents

R12 Rivers

More questions, **optional O1 - O30**

Communicated from school librarians (the bulk by one librarian).
Questions came originally from students unless otherwise noted

Easier to identify in my collection

O1 Iwo Jima

O2 D-Day

O3 Hiroshima

,
O4 Freedom Riders (civil rights)

O5 Counterculture movement

More challenging

O6 Teens in the Holocaust (depends on the collection, for me this is more in Easier to identify)

O7 Invasion of Poland

O8 Pop culture trends during 60s/70s

O9 Effect of Star Trek on the original generation

O10 Warren Commission (why formed, its report, and its effect)

O11 AND book projects for same class started this week
Criteria choose a book (fiction or nonfiction, alternative history) for 1900-1940 (not including WWII)

O12 The gifted teacher at my school had kids studying major rivers of the world.
Kids developed questions and then came to the LMC to try to find answers to things Like:

how deep is this river at it's deepest?
What vegetation can be found along this river?
How did the river impact the civilization.
And more (this was a 4thgrade gifted group) it was a nightmare for all and of course the students thought the LMC had no resources to help them.

Some I answered last year:

O13 Weapons in ancient Egypt.

O14 Compare types of transportation during the 19th Century.

O15 The World Trade Center before it collapsed?

O16 Chupacabra

O17 La Llorona. (My school was predominantly Hispanic!)

O18 I have a funny to share, it just happened yesterday. A 3rd grade girl came up to me and whispered, "I need your help." When I asked what she needed, she told me that she was interested in history. When I asked her what part of history she was interested in, she told me "The history of fairies." I tried to explain to her that I could probably find her a book on fairies, it would be in the fiction section, not the non-fiction area. In the meantime, I got called away. She went to the media paraprofessional and asked the same question, basically got the same reply. When I returned, she got rather loud and said, "Seriously, you don't have a book on the history of fairies?"

O19 Community helper books.

O25 Science experiment books.

O26 I need all of your gingerbread man books. (Some are in E, FIC, as well as nonfic.)

O27 One question I had no idea where to find: Where can you find books about critiques of authors?

From teachers:

O28 Animal adaptations

O29 State history

O30 Culture for second grade readers (this one stumped me for a minute!)

gold **Assignment 13.3** ***Assigned:*** ***Apr. 20***
Due: ***Apr. 27***

Library of Congress/Sears Subject Headings

Much information inherited from Assignments 13.1-4 (page ~157)

Learning objectives	Inherited
Materials Inherited, specifics added	Some **sample pages** dealing with *Education* are included. Many sample pages for *Transportation* included with Lecture 8.1. Explorations in subject access. Use LCSH from cataloger's desktop (which you used in Assignment 8). **Or** Use LCSH from OCLC Connexions (which you used most recently in Assignment 13.1, WebDewey); in the top navigation bar, click on Authorities, click on LCSH, then you are on your own. **Or** Use http://authorities.loc.gov/ **Library of Congress Subject Headings. 35. ed. 2013, 6 large red volumes**. 37. ed. 2015 as pdf, online through Classification Web. Last print edition. Can use earlier editions back to 1990. **Sears List of Subject Headings.** 20. ed., 2010. Much smaller and simpler than LCSH. If you are interested in school media centers or public libraries, you can use SSH instead of LCSH for indexing and query formulation. Online: www.ebscohost.com/academic/sears-list-of-subject-headings (free trial) We have already examined LCSH in Lecture 8.1, Explor. in Subject Access.
Readings Inherited, plus	**Beforehand**: Chan, Cataloging and classification, Chapter 8 on LCSH Needham, Ch. 10, The alphabetic subject catalog, p. 199-223 (optional). **Optional for further study** Chan, Lois Mai 2005 Library of Congress Subject Headings. principles of structure and application. 4. ed. Englewood, CO: Libraries Unlimited; 2005. Z695.Z8 L5226 2005 If interested, find in some library Perreault, Jean M. 1979 Library of Congress Subject Headings: A New Manual. International Classification 1979 November; 6(3):158-169. Extensive review of an earlier version of Chan's book. Gives a good feel for some of the problems in LCSH.
Tasks Partially inherited but modified	**2 Indexing and query formulation** (Done before the worksheet) **1 Guided exploration (worksheet)** (no lecture on this, do on your own) **3 Summary analysis**. Fill in the *Outline for the Analysis of KOS* (purple) (**Not pre-filled for LCSH**)
Deliverables Partially inherited but modified	1 The worksheet is just a reading, **nothing to submit.** 2 The Doc. Indexing Forms and the Query Forms, space for LCSH filled in. 3 The filled-in *Outline for the Analysis of KOS* (purple).

Time	6 hours

Worksheet for LCSH: Comparison example (LCSH and DDC or LCC)

This worksheet is only a reading; just read and understand. This is only for LCSH, not SSH

The following example will give you a sense of the nature of the relationship (or lack of it) between the subject headings and classification schemes.
In the example, I searched WorldCat (see Assignment 3) for the sample query ***Teaching of science at all levels*** and looked at the call numbers for relevant documents found to see whether I could find LC classes beyond the ones found by examining the LC classification.

Here is a list of class numbers found by examining LC classification for this topic.

Query topic: ***Teaching of science at all levels***

LB1532	Primary education > Branches of study > Special > Nature study. Science
LB1585-1585.7	El. or public school educ. > Special branches > Nature study. Science
Q160-161.2	Science (general) > Textbooks
Q181.A1-183.4	Science (general) > Study and teaching
Q190-197	Science (general) > Audiovisual aids in science teaching
QB61-62.7	Astronomy > Study and teaching. Research
QC20.8-20.82	Physics > Mathematical physics > Study and teaching. Research
QC23	Physics > **Elementary** textbooks
QC30-48	Physics > Study and teaching. Research

etc.: Under every field of science (and some of their subfields), there are subdivisions such as *Textbooks* and *Study and teaching. Research*

Since this covers only general science and physics, I first searched for

(su:Science OR su:Physics OR su:Astronomy)
AND su:study AND su:teaching [to get the subheading *study and teaching*]

Relevant documents found were assigned the following class numbers (new ones are **bold**):

LB 1065	Educational psychology > Learning > Interest. Attention. Motivation
LB 1585	
Q 161.2	
Q 181 (3x)	
Q 182.3	(note: book about elementary level!) (2x)
Q 183.4	
QA 76.88	Mathematics > Instruments and machines > Calculating machines > Electronic computers. Computer science > Supercomputers. High performance computing.
QB 501.5	Astronomy > Descr. astronomy /Solar system > Study and teaching. Research
QH 541.14	Biology (General) > Ecology > Juvenile works (note: book is on primary ed.))
QP 251.5	Physiology > Urinary and reproductive organs > Reproduction. Physiology of sex > Juvenile works (note: book is on primary level)

Then, to find more class numbers, I searched under

(su:Chemistry OR su:Biology OR su:Geology)
AND su:study AND su:teaching

This turns up many more class numbers, all new:

GC31.3	Oceanography > Study and teaching > Audiovisual aids
LD6241.7 1999	Individual institutions > U S > Universities. Colleges > Wright State Univ., Dayton, OH
QD31.2	Chemistry > General works, treatises, and advanced textbooks > 1970 -
QD40	Chemistry > Study and teaching. Research > General works
QD43	Chemistry > Study and teaching. Research > Experiments
QH308.7 (2x)	Biology > Textbooks > **Elementary** > 1970 - [elementary educ. by subject usually in LB]
QH315 (2x)	Biology > Study and teaching. Research > General works
QH316.4	Biology > Study and teaching. Research > Activity programs
QH362	Biology > Evolution > Study and teaching. Research
QH541.15.L35	Biology > Ecology > Special aspects of the subject as a whole > Landscape ecology

Vocabulary: **LCSH / SSH** **To be filled in** Name _____

Outline for the analysis of Knowledge Organization Systems

For some items, a section number from Soergel, Organizing information is given in ()

1. Purpose

1.1 **Information system** or type of information system in which to be used

1.2 **Intended for** controlled vocabulary indexing ☐ or query term expansion ☐ (Ch. 12, Introduction)

1.3 **Type of file and search mechanism** for which originally designed

Shelving ☐ Card catalog / printed index ☐ Online system ☐

2. Coverage and designation of concepts. Coverage and format of terms

2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts

2.2 **Concepts: Specificity**, depth of coverage (Section16.2.2). Coverage at each level of specificity.

2.3 Are all necessary **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)

2.4 **Nature of notation** (if none, state that) (Section 15.5.2)

2.5 **Terms**: Completeness of coverage of terminology (completeness of lead-in vocabulary). Recency of terms

2.6 **Form of terms**: Consistency, adherence to common usage.

3. Terminological and conceptual analysis and conceptual structure.

3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Fill in 3.1.1 - 3.1.3)

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

3.1.2 Hierarchical relationships (polyhierarchy). (Shown by arrangement or Broader Term / Narrower Term X-ref)

3.1.3 Associative relationships (Implied by physical proximity in the arrangement or explicit Related Term X-ref)

3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).

3.3 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship?

4. **Use of precombination in the index language** (concerns both 2 and 3) (Ch. 14, 15, esp. 15.4)

4.1 To what degree are the final descriptors assigned to documents, whether enumerated or built by the indexer, precombined?

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?

To what extent can the indexer build additional precombined descriptors?

Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to the arrangement of a classification) (Section 15.5.2)

5. **Access and display**. **Format of presentation of the vocabulary**

For each format consider access/retrieval by concepts versus access/retrieval by terms.
Access can be provided through arrangement in a printed document or through a computer search system.

5.1 **Format of printed document** (Fill in 5.1.1- 5.1.3)

5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?

5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)

- through linear arrangement or graphical display (Section 15.5.2)

- through cross-references (Section 14.1)

- through descriptor-find index (Section 15.5.1)

How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).

5.1.3 Display of terminological relationships (Synonymous Term)

5.2 **Access through computer system**. Navigation. Format of on-line displays

Instructions for using Library of Congress/Sears Subject Headings

Indexing with LCSH/SSH	Give all appropriate subject headings. If applicable, list other candidate headings and give reasons why you chose the headings you did. According to general practice, a subject heading should represent the content or relevance of the document as a whole. The number of subject headings assigned to a document varies between 1 and 5, with 2 or 3 being most common.
Query formulation with LCSH/SSH	Try to list **all** subject headings where one should look for relevant documents; if there are more than 7 subject headings, list a representative sample (enough to demonstrate that you know how to find all applicable subject headings). Note: Listing a main heading implies all the subordinate main heading - subheading combinations (which can be readily seen from the subject heading list). If you give just a sample fo subject headings to be used, prefer headings from different sections of the alphabet. For example, in the *canal* search, give just one heading starting with *canal*, make a note that there are many headings starting with *canal*, and find relevant headings elsewhere. The query formulation is the OR combination of all the headings you list. (AND combinations are out: while multiple subject headings can be assigned, LCSH/SSH is not designed for combination searching, and many online catalogs do not allow for it.) You may use the print version or the electronic version for documents A-C and queries D-E. Query F, *canals*, is part of the Assignment 13.4LCC exercise on Classification Web. You may try them in the print version as well for comparison.

Example of query formulation with LCSH (XXX some examples for SSH to be added)

Query topic: ***Teaching of science at all levels***	
Query in online catalog	In an online catalog in which one can search for phrases in subject headings and use Boolean AND, the following query formulation would find a large portion of the relevant documents: (Science OR Nature study OR Physics OR Chemistry OR Biology OR ...) AND Study and teaching One might further look under Nature study — Activity programs Science students Science teachers For a list of illustrative full headings, see the next box
A sampling of illustrative LC subject headings	Science – Study and teaching Science – Study and teaching – Activity programs Science – Study and teaching – Aids and devices Science – Study and teaching – Supervision Science – Study and teaching (Early childhood) Science – Study and teaching (Elementary) Science – Study and teaching (Graduate) Science – Study and teaching (Higher) Science – Study and teaching (Internship) Science – Study and teaching (Preschool) Science – Study and teaching (Primary) Science – Study and teaching (Secondary) Science – Study and teaching (Undergraduate) This pattern of subdivision is used with branches and sub-branches of science, for example Biology – Study and teaching plus many more possible Chemistry – Study and teaching Nature study – Study and teaching Physics – Study and teaching One needs to compile a complete list of all branches and sub-branches of science. Following several steps of NT cross-reference starting from *Science* helps with this.

Sample pages from LCSH here
XXX Needs title page

Sample pages end on even page

gold **Assignment 13.4** ***Assigned: Apr. 20***
Due: Apr. 27

ERIC Thesaurus

Much information inherited from Assignments 13.1-4 (page ~157)

Learning objectives	Inherited
Materials Inherited, specifics added	Online at www.eric.ed.gov Sample pages (from an earlier version) attached. Full thesaurus may be available at an academic library (14. ed. is the last print version, 13. ed. can be used)
Readings	No readings
Tasks Inherited, repeated for convenience	**1 Guided exploration (worksheet)** Use the attached sample pages for this task. **2 Indexing and query formulation** Use the full thesaurus (online). **3 Summary analysis**. Read and contemplate the pre-filled *Outline for the Analysis of Knowledge Organization Systems* (purple)
Deliverables	1 The worksheet answers 2 The Document Indexing Forms and the Query Forms, space for ERIC filled in. (No ERIC query for Query F)
Time	4 hours`

gold

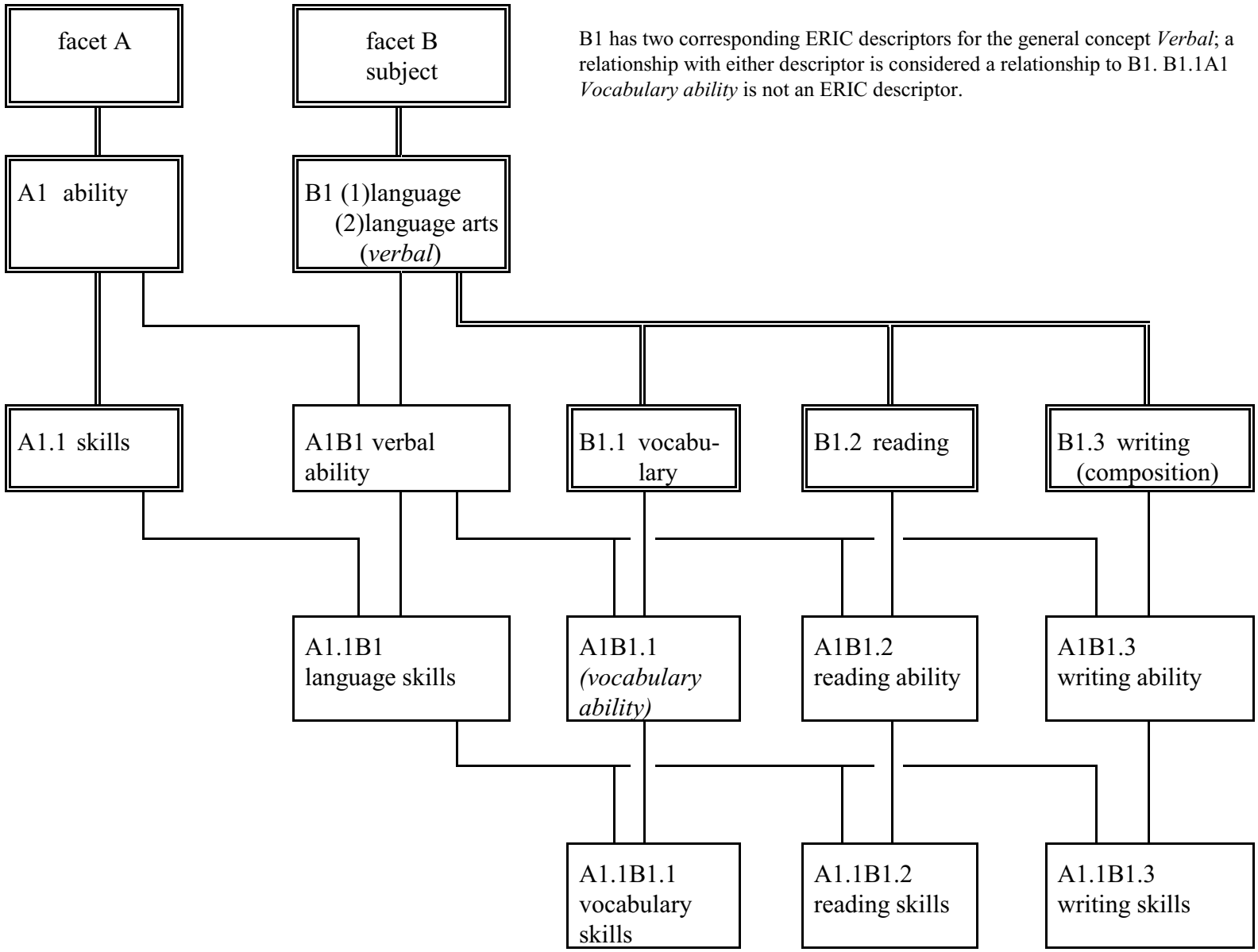
Name: Email address:

ERIC worksheet

Learning objectives	Understand the application of facet analysis to the analysis of concepts and concept relationships in a thesaurus.
Task background	On the next page is an expanded version of the answer sheet for Assignment 12.3a, a hierarchy in graphical representation. The terms in the boxes are actual ERIC descriptors unless indicated otherwise; these descriptors make up the study set for this worksheet. On pages 178 - 180 (or thereabouts) is an excerpt from the ERIC Thesaurus that shows these descriptors with their cross-references. In the long lists of cross-references, descriptors from the study set are bold so they can be located easily. **Note**. Concept B1 *Verbal* in the diagram conflates two ERIC descriptors that address basically the same concept: (1) *Language* and (2) *Language arts*. A relationship to or from either one of these is considered a relationship to or from B1. A number of other ERIC descriptors that fall into this "conceptual grouping" have not been included in the example to keep it simple. Some of these concepts are *Language proficiency*, *Linguistic competence*, *Communicative competence (languages)*.
Tasks	1 For each hierarchical relationship shown in the graph, find out whether it is given in the ERIC Thesaurus, either as **BT/NT** or as **RT**, and label the line in the graph accordingly. If a hierarchical relationship does not appear in the ERIC Thesaurus at all, label the line **NO**. 2 Write a brief essay (max. ½ page) on how the ERIC Thesaurus handles these relationships.
Result	1 The labeled hierarchy graph. 2 A brief essay on relationships in the ERIC Thesaurus

Analysis of ERIC descriptors and relationships using facets

B1 *Verbal* has two corresponding ERIC descriptors; a relationship with either descriptor is considered a relationship to B1. B1.1A1 *Vocabulary ability* is not an ERIC descriptor.



B1 has two corresponding ERIC descriptors for the general concept *Verbal*; a relationship with either descriptor is considered a relationship to B1. B1.1A1 *Vocabulary ability* is not an ERIC descriptor.

Vocabulary: **ERIC** (optional) Already filled in (under construction)

Outline for the analysis of Knowledge Organization Systems

For some items, a section number from Soergel, Organizing information is given in ()

1. Purpose

1.1 **Information system** or type of information system in which to be used

1.2 **Intended for** controlled vocabulary indexing ☐ or query term expansion ☐ (Ch. 12, Introduction)

1.3 **Type of file and search mechanism** for which originally designed

Shelving ☐ Card catalog / printed index ☐ Online system ☐

2. Coverage and designation of concepts. Coverage and format of terms

2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts

2.2 **Concepts: Specificity**, depth of coverage (Section16.2.2). Coverage at each level of specificity.

2.3 Are all necessary **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)

2.4 **Nature of notation** (if none, state that) (Section 15.5.2)

2.5 **Terms**: Completeness of coverage of terminology (completeness of lead-in vocabulary). Recency of terms

2.6 **Form of terms**: Consistency, adherence to common usage.

3. Terminological and conceptual analysis and conceptual structure.

3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Fill in 3.1.1 - 3.1.3)

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

3.1.2 Hierarchical relationships (polyhierarchy). (Shown by arrangement or Broader Term / Narrower Term X-ref)

3.1.3 Associative relationships (Implied by physical proximity in the arrangement or explicit Related Term X-ref)

3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).

3.3 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship?

4. **Use of precombination in the index language** (concerns both 2 and 3) (Ch. 14, 15, esp. 15.4)

4.1 To what degree are the final descriptors assigned to documents, whether enumerated or built by the indexer, precombined?

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?

To what extent can the indexer build additional precombined descriptors?

Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to the arrangement of a classification) (Section 15.5.2)

5. **Access and display**. **Format of presentation of the vocabulary**

For each format consider access/retrieval by concepts versus access/retrieval by terms.
Access can be provided through arrangement in a printed document or through a computer search system.

5.1 **Format of printed document** (Fill in 5.1.1- 5.1.3)

5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?

5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)

- through linear arrangement or graphical display (Section 15.5.2)

- through cross-references (Section 14.1)

- through descriptor-find index (Section 15.5.1)

How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).

5.1.3 Display of terminological relationships (Synonymous Term)

5.2 **Access through computer system**. Navigation. Format of on-line displays

Instructions for using the ERIC Thesaurus

Indexing with ERIC	Give all appropriate ERIC descriptors. According to common practice an ERIC descriptor can represent a topic treated in part of the document, but still somewhat extensively. 15 - 20 descriptors for a document is not uncommon.
Query formulation with ERIC	Try to list **all** categories where one should look for relevant documents (if more than 10, give representative examples); the query formulation might consist of just one concept or of two or more concepts ANDed. In ERIC, a concept may need to be represented by an OR combination of descriptors. Remember in particular that in ERIC a hierarchically expanded search requires ORing a descriptor with all its narrower descriptors. Do the best you can do in a reasonable time.

Example of query formulation with the ERIC Thesaurus

Query topic: ***Teaching of science at all levels***	OR combination of
Science education Science education history Science instruction Science curriculum General science Science programs Science activities Science projects Science course improvement projects Science process skills	Science tests Elementary science Secondary school science College science Summer science programs Science teachers Science teaching centers Aerospace education Marine education Environmental education

If indexing is done properly, this should find most everything (the list could be made more complete). But if an indexer has a document *The physics curriculum* and assigns simply *Physics* and *Curriculum* (instead of the correct *Science curriculum*), we are out of luck. We could compensate for such indexing errors by running a second search as follows:

(OR combination of all *science* descriptors) AND
(OR combination of all *curriculum* and *teaching methods* descriptors)

To find all science descriptors, we would start from *Natural sciences* and follow several steps of cross-references; same principle for *curriculum*. This second search would add a few relevant and many irrelevant documents.

XXX ERIC thesaurus materials title page

Excerpts from the ERIC Thesaurus 13th ed. 1995

You can search the ERIC thesaurus on the web under http://www.eric.ed.gov

ABILITY
SN The degree of actual power present in an organism or system to perform a given physical or mental act (note: use a more specific term if possible)
NT Academic ability
Cognitive ability
Competence
Language proficiency
Leadership
Nonverbal ability
Skills
Spatial ability
Verbal ability
RT Ability grouping
Ability identification
Achievement
Aptitude
Aspiration
Difficulty level
Disabilities
Gifted
Performance
Productivity
Qualifications
Readiness
Talent

LANGUAGE
SN Systematic means of communicating ideas and feelings through the use of signs, gestures, words, and/or auditory symbols (note: for natural languages and language families, see "languages")
NT Artificial languages
Child language
Figurative language
Interlanguage
Language of instruction
Language universals
Languages for special purposes
Official languages
Oral language
Programming languages
Second languages
Sign language
Symbolic language
Tone languages
Uncommonly taught languages
Unwritten languages
Urban language
Written language
RT Artificial speech
Code switching (language)
Dialects
Language acquisition
Language arts
Language attitudes
Language enrichment
Language impairments
Language patterns
Language planning
Language processing
Language proficiency
Language research
Language rhythm
Language role
Language skill attrition
Language skills
Language styles
Language tests
Language universals
Language usage
Language variation
Languages
Linguistics
Onomastics
Semiotics
Social dialects
Speech
Speech communication
Verbal communication
Word frequency
Word order

LANGUAGE ARTS
NT Debate
Handwriting
Listening
Outlining (discourse)
Reading
Rhetoric
Speech
Spelling
Story telling
Writing (composition)
RT Child language
Communication (thought transfer)
Comprehension
Discourse modes
Dramatics
Editing
English curriculum
Journalism education
Language
Language experience approach
Language skills
Lexicology
Literature
Reading writing relationship
Self expression
Speech communication
Speech curriculum
Translation
Verbal ability
Verbal communication
Vocabulary
Whole language approach

LANGUAGE SKILLS
BT **Skills**
NT Audiolingual skills
Communicative competence (languages)
Reading skills
Vocabulary skills
Writing skills
RT Basic skills
Cloze procedure
Communication skills
Daily living skills
Dictation
English (second language)
Error analysis (language)
Expressive language
Inferences
Interpreters
Interpretive skills
Language
Language acquisition
Language aptitude
Language arts
Language dominance
Language fluency
Language processing
Language proficiency
Language skill attrition
Language tests
Languages
Linguistic competence
Linguistic performance
Listening comprehension
Metalinguistics
Monolingualism
Psycholinguistics
Receptive language
Second language learning
Sentence combining
Thinking skills
Translation
Verbal ability
Whole language approach
Word study skills

READING
BT **Language arts**
Literacy
NT Basal reading
Beginning reading
Content area reading
Corrective reading
Critical reading
Directed reading activity
Early reading
Functional reading
Independent reading
Individualized reading
Music reading
Oral reading
Reading aloud to others
Recreational reading
Remedial reading
Silent reading
Speed reading
Story reading
Sustained silent reading
RT Advance organizers
Bibliotherapy
Braille
Cloze procedure
Context clues
Decoding (reading)
Diacritical marking
Informal reading inventories
Initial teaching alphabet
Inner speech (subvocal)
Language processing
Miscue analysis
Pattern recognition
Phoneme grapheme correspondence
Proofreading
Readability
Readability formulas
Reader response
Reader text relationship
Reading ability
Reading achievement
Reading assignments
Reading attitudes
Reading centers
Reading comprehension
Reading consultants
Reading diagnosis
Reading difficulties
Reading failure
Reading games
Reading habits
Reading improvement
Reading instruction
Reading interests
Reading material selection
Reading materials
Reading motivation
Reading processes
Reading programs
Reading rate
Reading readiness
Reading readiness tests
Reading research
Reading skills
Reading strategies
Reading teachers
Reading tests
Reading writing relationship
Tachistoscopes
Verbal communication
Vocabulary
Writing (composition)

READING ABILITY
BT **Verbal ability**
NT **Reading skills**
RT **Reading**
Reading achievement
Reading attitudes
Reading difficulties
Reading readiness

READING SKILLS
BT **Language skills**
Reading ability
NT Reading comprehension
Reading rate
RT Adult literacy
Basic skills
Cloze procedure
Content area reading
Decoding (reading)
Eye voice span
Functional literacy
Functional reading
Inferences

Literacy
Literacy education
Minimum competencies
Phonics
Reader response
Reading
Reading centers
Reading habits
Reading improvement
Reading instruction
Reading processes
Reading strategies
Reading tests
Thinking skills
Vocabulary skills
Word recognition
Word study skills

SKILLS
BT **Ability**
NT Agricultural skills
Basic skills
Business skills
Communication skills
Daily living skills
Decision making skills
Home economics skills
Homemaking skills
Information skills
Interpretive skills
Job skills
Language skills
Locational skills (social studies)
Map skills
Mathematics skills
Mechanical skills
Minimum competencies
Parenting skills
Psychomotor skills
Research skills
Salesmanship
Science process skills
Study skills
Teaching skills
Thinking skills
Visual literacy
RT Competence
Difficulty level
Familiarity
Interpersonal competence
Mastery learning
Mastery tests
National competency tests
Process education
Qualifications
Skill analysis
Skill centers
Skill development

VERBAL ABILITY
BT **Ability**
NT **Reading ability**
Writing ability
RT Academic ability
Basic skills
Communication skills
Language aptitude
Language arts
Language skills
Linguistic competence
Linguistic input
Linguistic performance
Nonverbal ability
Speech skills
Verbal development
Verbal learning
Verbal operant conditioning
Verbal tests

VOCABULARY
NT Aviation vocabulary
Banking vocabulary
Basic vocabulary
Chemical nomenclature
International trade vocabulary
Jargon
Keywords
Kinship terminology
Mathematical vocabulary
Medical vocabulary
Sight vocabulary
Subject index terms
Word lists
RT Adjectives
Adverbs
Code switching (language)
Definitions
Glossaries
Glottochronology
Language arts
Lexicology
Linguistic borrowing
Multilingual materials
Nouns
Reading
Thesauri
Verbs
Vocabulary development
Vocabulary skills
Word frequency

VOCABULARY SKILLS
BT **Language skills**
RT Basic skills
Basic vocabulary
Context clues
Reading skills
Vocabulary

WRITING (COMPOSITION)
BT **Language arts**
Literacy
NT Abstracting
Basic writing
Childrens writing
Content area writing
Creative writing
Descriptive writing
Expository writing
Free writing
Freshman composition
Journal writing
Local color writing
News writing
Notetaking
Paragraph composition
Parallelism (literary)
Playwriting
Proposal writing
Technical writing
Writing for publication
RT Audience analysis
Coherence
Cohesion (written composition)
Discourse modes
Handwriting
Language processing
Letters (correspondence)
Literary devices
Literary styles
Narration
Outlining (discourse)
Paragraphs
Persuasive discourse
Plagiarism
Poetry
Prewriting
Prose
Reading
Reading writing relationship
Revision (written composition)
Rhetoric
Rhetorical invention
Sentences
Spelling
Story grammar
Student writing models
Verbal communication
Writing ability
Writing achievement
Writing apprehension
Writing assignments
Writing attitudes
Writing difficulties
Writing evaluation
Writing exercises
Writing improvement
Writing instruction
Writing laboratories
Writing processes
Writing readiness
Writing research
Writing skills
Writing strategies
Writing teachers
Writing tests
Writing workshops
Written language

WRITING ABILITY
BT **Verbal ability**
NT **Writing skills**
RT Handwriting
Writing (composition)
Writing achievement
Writing attitudes
Writing difficulties
Writing readiness

WRITING SKILLS
BT **Language skills**
Writing ability
RT Adult literacy
Audience awareness
Basic skills
Basic writing
Capitalization (alphabetic)
Childrens writing
Cohesion (written composition)
Content area writing
Essay tests
Functional literacy
Grammar
Handwriting
Language styles
Language tests
Literacy
Literacy education
Minimum competencies
Notetaking
Outlining (discourse)
Paragraph composition
Parallelism (literary)
Prewriting
Proofreading
Punctuation
Revision (written composition)
Rhetorical invention
Sentence combining
Spelling
Story grammar
Student journals
Student writing models
Text structure
Thinking skills
Writing (composition)
Writing evaluation
Writing exercises
Writing improvement
Writing instruction
Writing laboratories
Writing processes
Writing strategies
Writing tests
Writing workshops

Sample pages from ERIC 12

Ending on even page