UBLIS571%Assignment04

Spring 2016

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|  | Assignment 4 | ***Assigned: February 3*** |
|  |  | ***Due: February 10*** |

**Restructuring a semantic network**

**Objective**: Solidify understanding of hierarchical inheritance and its role in efficient info. storage.

**Tasks**:

1 Restructure a set of records for more efficient storage.

2 Restructure a semantic network given in a graphic representation.

**Deliverables**: Results of

Task 1 (can be done on the next pages) and

Task 2 (easier to draw on paper and scan)

**For Task 1.**

1.1 Look through the records and find groups of records that have pieces of information in common

1.2 In the restructured database, create a new record for each of the groups (records A, B, . . ., at most 3): (fill in the slots in common to all records in the group).

1.3 In the restructured database, for the original records, fill in the *InheritedFrom* slot.  
Then, delete all the values that are inherited (you can delete the whole line, if you wish).

**For Task 2**

Every new record (A, B, may be C) is a new node in the network.

Link the new node

up to the values filled in the new record

down to the events that belong to the group

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|  | **Original database** Do not change these | **Restructured database** Delete information that is inherited |
| **New nodes A, B, …**  capturing commonalities  (as many as you need) |  | ***Event no*. A**  *InheritsFrom*  *Type:*  *Place:*  *Time:*  *NumberKilled:* |
|  |  | ***Event no*. B**  *InheritsFrom*  *Type:*  *Place:*  *Time:*  *NumberKilled:* |
|  |  | ***Event no*. C**  *InheritsFrom*  *Type:*  *Place:*  *Time:*  *NumberKilled:* |
|  | ***Event no*. 1**  *Type:* Plane crash  *Place:* France  *Time:* 1993  *NumberKilled:* 1 | ***Event no*. 1**  *InheritsFrom*  *Type:* Plane crash  *Place:* France  *Time:* 1993  *NumberKilled:* 1 |
|  | ***Event no*. 2**  *Type:* Earthquake  *Place:* India  *Time:* 1993  *NumberKilled:* 20 | ***Event no*. 2**  *InheritsFrom*  *Type:* Earthquake  *Place:* India  *Time:* 1993  *NumberKilled:* 20 |
|  | ***Event no*. 3**  *Type:* Plane crash  *Place:* France  *Time:* 1993  *NumberKilled:* 100 | ***Event no*. 3**  *InheritsFrom*  *Type:* Plane crash  *Place:* France  *Time:* 1993  *NumberKilled:* 100 |
|  | ***Event no*. 4**  *Type:* Plane crash  *Place:* France  *Time:* 1993  *Number killed:* 30 | ***Event no*. 3**  *InheritsFrom*  *Type:* Plane crash  *Place:* France  *Time:* 1993  *Number killed:* 100 |
|  | ***Event no*. 5**  *Type:* Earthquake  *Place:* India  *Time:* 1995  *Number killed:* 400 | ***Event no*. 5**  *InheritsFrom*  *Type:* Earthquake  *Place:* India  *Time:* 1995  *Number killed:* 400 |
|  | ***Event no*. 6**  *Type:* Plane crash  *Place:* France  *Time:* 1995  *Number killed:* 20 | ***Event no*. 6**  *InheritsFrom*  *Type:* Plane crash  *Place:* France  *Time:* 1995  *Number killed:* 20 |
|  | ***Event no*. 7**  *Type:* Earthquake  *Place:* California  *Time:* 1996  *Number killed:* 5 | ***Event no*. 7**  *InheritsFrom*  *Type:* Earthquake  *Place:* California  *Time:* 1996  *Number killed:* 5 |



**Restructured semantic network**

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| Plane crash | France | 1993 | | 1995 | India | Earthquake | California | 1996 |
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| Event 1 | Event 3 | Event 4 Event 6 | | | Event 2 | Event 5 | Event 7 |  |