Questionnaire

1) User profile and experience

Name:
Surname:
E-mail:
Company:

Please indicate your expertise and education level.

Expertise:

- ☐ Mathematicians
- ☐ Computer scientist
- ☐ Engineering
- ☐ Business economy
- ☐ Classical Studies
- ☐ Other scientific fields

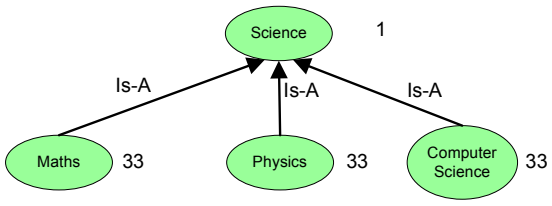
Education level:

- ☐ PhD
- ☐ MsC (3 years University degree after the high school)
- ☐ BsC (4 or 5 years University degree after the high school)
- ☐ High school

2) About the notation used in the questionnaire

In the questionnaire you are kindly asked to answer 10 questions considering different collections of scientific books stored in some hypothetical repositories.

Let's suppose we have several collections of scientific books stored in different repositories. The questionnaire focuses on different situations arising in such repositories. Each repository is represented by diagrams where the books are grouped according to their topics.
The topics are organized in simple taxonomies as in the following diagram



where:

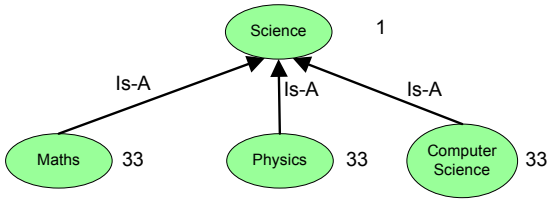
- the labels in the green circles represent the book topics;
- the number beside each topic represents the number of books in the repository which are classified with that topic: e.g. in the figure 33 books are about "Maths" and 1 is about "Science". The total number of available books in the repository is the sum of these numbers;
- the arrows between the topics represent the relationship among the topics. The relationships represent topic specializations: the IS-A relation which identifies subtopics (e.g., in the figure, "Maths" is considered as a subtopic of "Science").

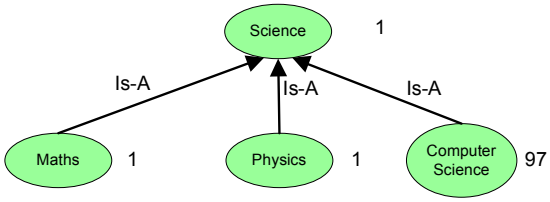
RECCOMENDATIONS

- Please answer the questions in the order they are presented
- You must not change the answer you have given if you have already read the question which follows

Question 1:

The diagrams (Rep 1 and Rep 2) represent two repositories organized according to the same taxonomy but containing different books.





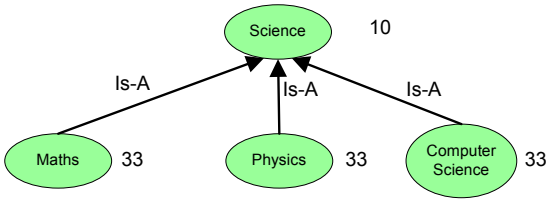
Rep 1 Rep 2

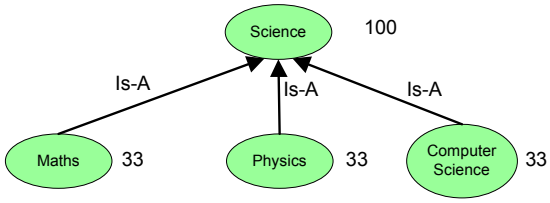
Please indicate in which of the two repositories the topic "Science" **best** represents the repository content:

☐ Rep 1
☐ Rep 2

Question 2:

The diagrams (Rep 1 and Rep 2) represent two repositories organized according to the same taxonomy but containing different books.





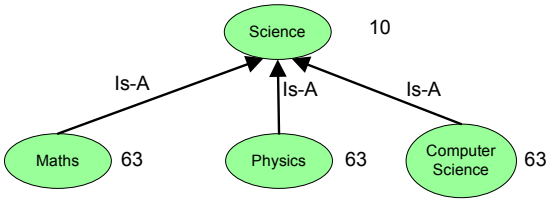
Rep 1 Rep 2

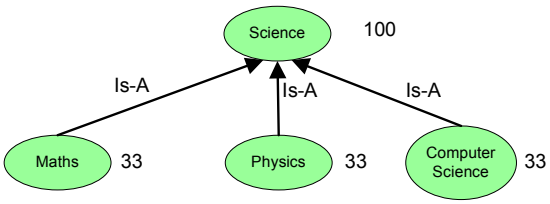
Please indicate in which of the two repositories the topic "Science" **<u>worst</u>** represents the repository content:

☐ Rep 1
☐ Rep 2

Question 3:

The diagrams (Rep 1 and Rep 2) represent two repositories organized according to the same taxonomy but containing different books.





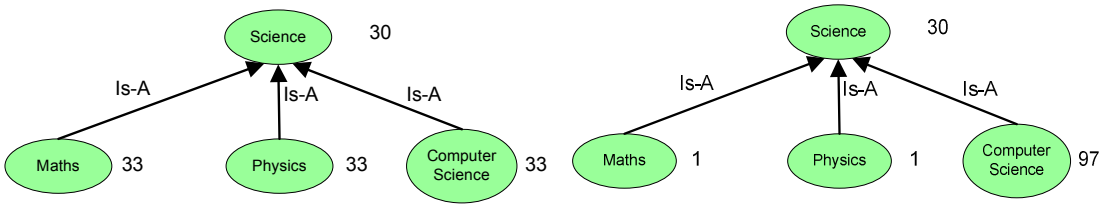
Rep 1 Rep 2

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

- ☐ Rep 1
- ☐ Rep 2
- ☐ I don't know

Question 4:

The diagrams (Rep 1 and Rep 2) represent two repositories organized according to the same taxonomy but containing different books.



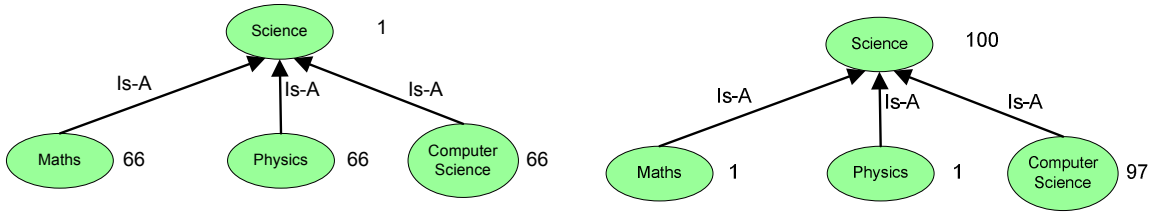
Rep 1 Rep 2

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

- ☐ Rep 1
- ☐ Rep 2

Question 5:

The diagrams Rep 1 and Rep 2 represent two repositories organized according to the same taxonomy but containing different books.



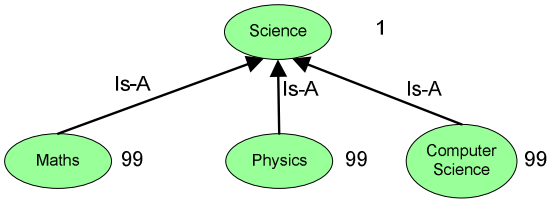
Rep 1 Rep 2

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

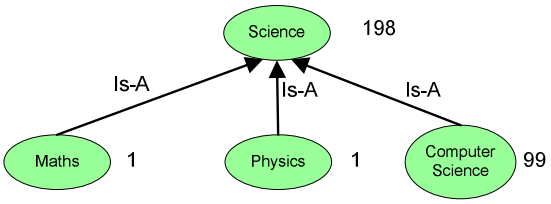
- ☐ Rep 1
- ☐ Rep 2

Question 6:

The diagrams Rep 1 and Rep 2 represent two repositories organized according to the same taxonomy but containing different books.



Rep 2



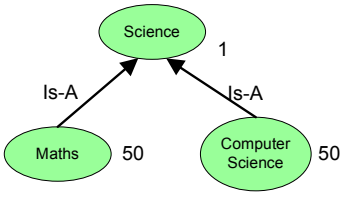
Rep 1

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

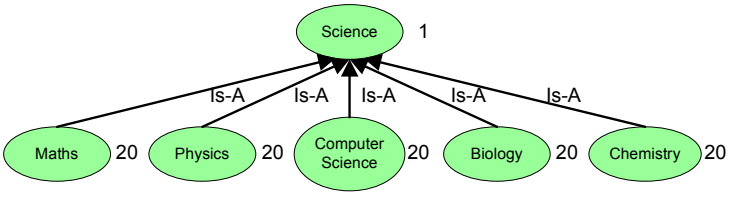
- ☐ Rep 1
- ☐ Rep 2
- ☐ I don't know
- ☐ None, there is no worst

Question 7:

The diagrams Rep 1 and Rep 2 represent two repositories organized according to two taxonomies but containing different books.



Rep 1



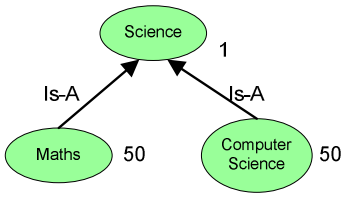
Rep 2

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

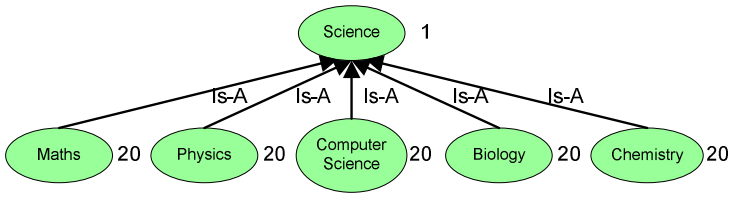
- ☐ Rep 1
- ☐ Rep 2
- ☐ I don't know
- ☐ None, there is no worst

Question 7 (bis)

The diagrams Rep 1 and Rep 2 represent two repositories organized according to two taxonomies but containing different books.



Rep 1



Rep 2

Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content: (Note that contrary to the question 7 here you are forced to make a decision between Rep 1 and Rep 2)

- ☐ Rep 1
- ☐ Rep 2

Question 8:

The diagrams Rep 1 and Rep 2 represent two repositories organized according to the same taxonomy but containing different books.

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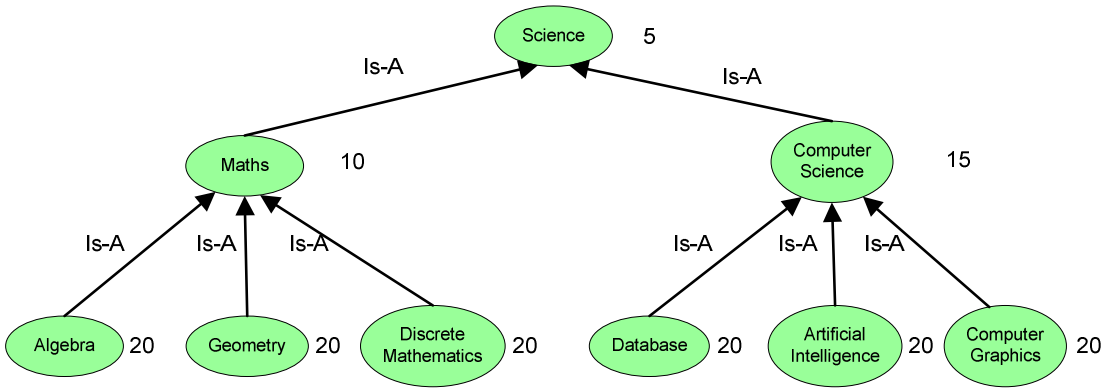
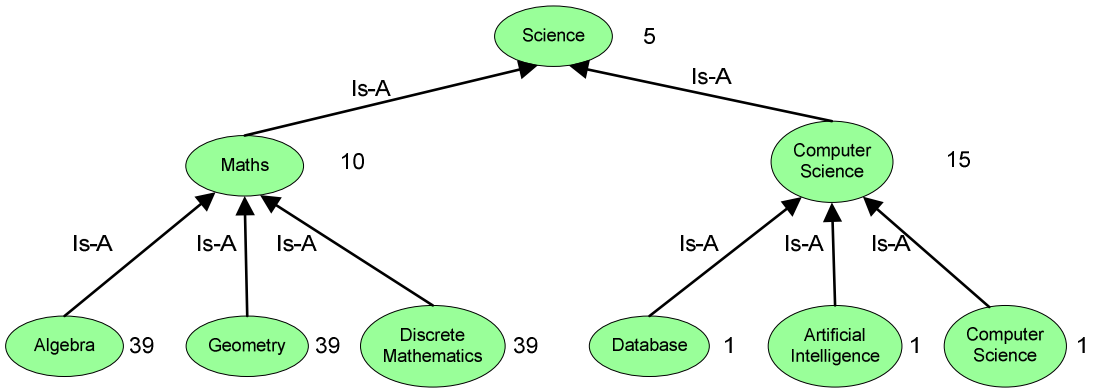


Rep 1



Rep 2

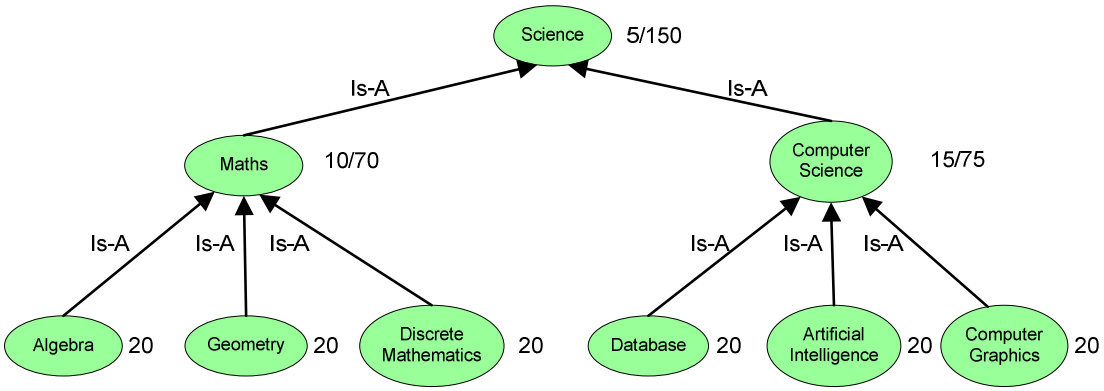
Please indicate in which of the two repositories the topic "Science" **worst** represents the repository content:

- ☐ Rep 1
- ☐ Rep 2
- ☐ I don't know

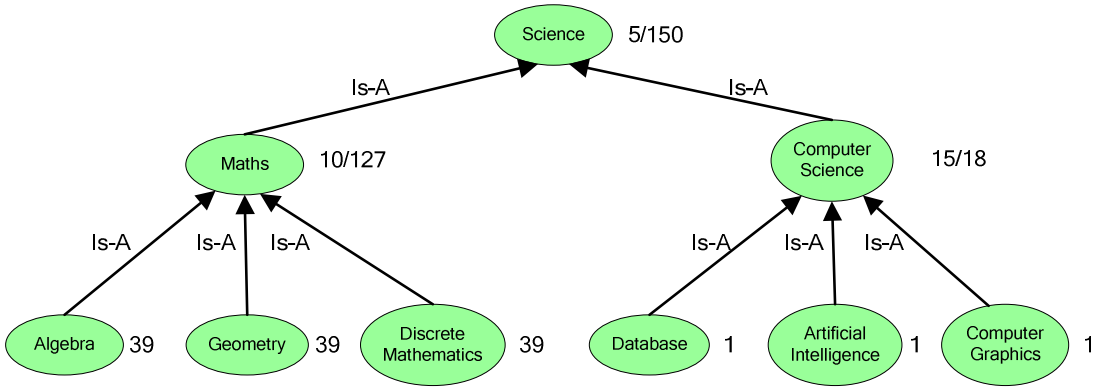
Question 9:

The diagrams Rep 1 and Rep 2 represent two repositories organized according to the same taxonomy but containing different books. They are similar to the diagrams in question 6, but a second number (after the character "/") has been added to represent the sum between the books of the considered topic plus all the books referring to its sub topics.

This has been made because the formal definition of the relation IS-A forces to consider the book referring to the sub topics as books which refer directly to the main topic. For example, consider the topic "Maths", it has "Algebra", "Geometry" and "Discrete Mathematics" as subtopics. Then, according to the formal definition of IS-A the books which refer to "Maths" are 70: the 20 books explicitly referring to it, plus the 20 referring to "Algebra", the 20 referring to "Geometry", and the 20 referring to "Discrete Mathematics".



Rep 1



Rep 2

Please indicate, considering the effect of the IS-A, in which of the two repositories the topic "Science" **worst** represents the repository content:

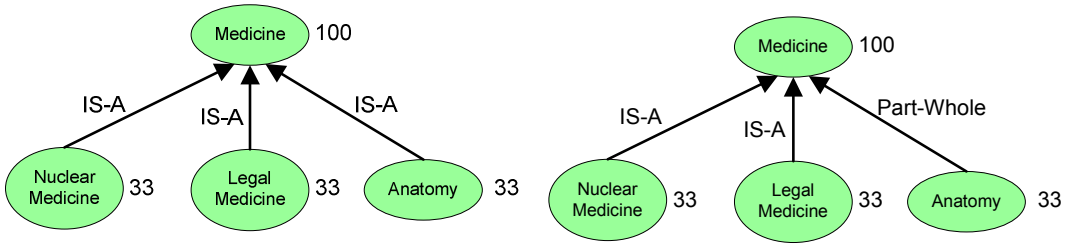
- ☐ Rep 1
- ☐ Rep 2
- ☐ I can't answer to this question since I don't understand the effect of the formal IS-A

Please indicate if you would modify the answer you gave in question 8?

- ☐ Yes
- ☐ No

Question 10:

A new relation Part-whole is considered: it models the sub part relation. Even if the Part-Whole is often confused in real usage scenario with the IS-A relation, it differs from the IS-A: if we consider a car, the handle would be a part of the car door, but not a sub kind of car, thus the relation part-whole holds instead of the IS-A.
Suppose that the diagrams Rep 1 and Rep 2 represent two repositories organized according to two taxonomies which only differ with respect to the relation adopted between "Anatomy" and "Medicine".



Rep 1 Rep 2

Please, rank the level of truth of the following sentences from 0 to 5 (0=false, 5=true):

1. It is more evident in Rep 1 than in Rep 2 that "Medicine" includes "Anatomy"
   0 1 2 3 4 5
2. It is more evident in Rep 2 than in Rep 1 that "Medicine" includes "Anatomy"
   0 1 2 3 4 5
3. It is equally evident in Rep 1 and Rep 2 that "Medicine" includes "Anatomy"
   0 1 2 3 4 5
4. I don't know
   0 1 2 3 4 5