About the human.rdfs schema

1. Look at the XML structure of this file and locate different syntactic properties: the different possible uses of the markup (ex: opening tag and closing, single tag), the use of namespaces for qualified names, the use of entities, etc.
   You may want to translate it into Turtle.
2. Locate the use of the terms of the RDF (S) language: Class, Property, label, how, range, domain, subClassOf, subPropertyOf, etc. To what namespaces are they associated?
3. What are the classes of resources that have the age property?
4. Look at the beginning of the file and draw the subgraph of the hierarchy containing the classes `Animal`, `Man` and `Woman`.

Query the schema itself

Reset or relaunch the standalone Corese search engine interface and load the file `human`**`.rdfs`** (and only this one).

1. Write a query to find all the classes of the ontology.
2. Write a query to find all the links subClassOf in the ontology.
3. Write a query to find the definitions and translations of "shoe size" (other labels and comments in different languages for the resource labeled "shoe size").
4. Write a query to find the synonyms in French of the word 'personne' in French (other labels in the same language for the same resource/class/property). What are the answers?
5. Write a query to find the different meaning of the term "size" (disambiguation using the different comments attached to different resources/classes/properties having the label "size"). What are the answers?
6. Write a query to find the properties that use the class Person in their signatures?
7. Rebuild the hierarchy of classes (with a CONSTRUCT query) considering only the classes in the humans.rdfs schema
8. Modify the previous CONSTRUCT query to add to the output graph the signatures of the relations.

Query RDF data augmented by an RDFS schema

Question 1

1. Reset the Corese engine and load only the annotations (.rdf)
2. Write a query to find the Persons.
3. Load the schema (.rdfs)
4. Rerun the query to find the Persons.
5. Compare the numbers of answers and explain.

Question 2

1. Write a query to find Males and their wives. How many answers do you get? Explain this result.
2. In the data declare that Lucas has to father Karl. Reset Corese, reload the ontology and the data, and then rerun the query to find Males and their wives. Explain the new result.

Question 3

1. Write a query to find the Lecturers and their types. How many answers do you get? See how this typing is declared in the data and explain the result.
2. Write a query to find common instances of the classes Person and Male. See how this typing is declared in the data and explain the presence of Jack.

Question 4

Write a query to find the hasAncestor relations. Explain the result after checking where this property is used in the data.

Question 5

1. Write a query to find the family cores (couples and their children) using a SELECT query.
2. Modify it to display the result with a CONSTRUCT query

Question 6

1. Declare the olderThan relationship in the schema to indicate between two people which is eldest and construct the arcs between peoples with a SPARQL query
2. Find a query that generates only the minimum number of links without redundancy with olderThan transitivity.

Question 7

Write a query to find for John the properties which label contains the string "size" and the value of these properties.

Question 8

Use the ontology to document your answers in natural language: write a query to find the types and properties of Laura in French.