RDF practical session

Software requirements

- The RDF XML online validation service by W3C: https://www.w3.org/RDF/Validator/
- The RDF online translator: http://rdf-translator.appspot.com/
- The SPARQL Corese engine: http://wimmics.inria.fr/corese

Create RDF

Read carefully the following statements:

> *"Margot is a 32 year old woman, she has a shoe size of 38 and trouser size of 40. She is married to Arthur, with whom she has two children: Simon and Marie. Margot is a teacher and Alice and Pierre are here colleagues. Margot 's mother is called Simone."*

1. Use your favorite text editor and write the above statements in RDF in N3 syntax inventing your own vocabulary. Save you file as "Margot.ttl"
2. Use your favorite text or XML editor and write the above statements in RDF in XML syntax reusing the same vocabulary "Margot.rdf"
3. Use the RDF XML online validation service to validate your XML and see the triples https://www.w3.org/RDF/Validator/
4. In the validator use the option to visualize the graph
5. Use the RDF online translator to validate your N3 and translate it into RDF/XML: http://rdf-translator.appspot.com/
6. Compare your RDF/XML with the result of the N3 translation
7. Translate in other formats to see the results.

Query your data

Download the Corese.jar library and start it as a standalone application: On Window double-click the file ".jar". If it does not work or on other platforms, run the command "java - jar" followed by the name of the ".jar" archive. Notice that you need java on your machine and proper path configuration.

This interface provides two tabs: (1) one to load input files and see traces of execution, and (2) the default tab to start loading or writing queries and see their result. Load the annotations contained in the file "Margot.rdf" you created and validated before. The interface contains a default SPARQL query:

```
Select ?x ?t where { ?x rdf:type ?t}
```

The SPARQL language will be presented in the next course. Just know that this query can find all of the resources referred to in the data you loaded and their types. Launch the query and check the results.

Understand existing data

1, Get the RDF/XML about http://ns.inria.fr/fabien.gandon#me

Translate the RDF/XML into Turtle/N3

Can you guess the links between http://ns.inria.fr/fabien.gandon and http://ns.inria.fr/fabien.gandon#me

2, Using CURL get the RDF/XML data of the White Shark on the BBC web site. Try to validate it on the W3C validation service. Do you get an error? Why? How can you fix it?

3, Get the Turtle data of Paris on DBpedia.org then in the file find the triple that declares it as a capital in Europe.

4, At the following address you will find an RDF file containing several annotations:

http://wimmics.inria.fr/doc/tutorial/human_2013.rdf

Download the file and use the RDF XML online validation service to validate the XML and see the triples and the graph.

1. What is the namespace used for instances / resources created in this file?
2. By which mechanism is the association between instances and namespace done i.e. how was the instance namespace specified?
3. What is the namespace of the RDF schema used and how is it associated with the tags?
4. Explain the code `xmlns="&humans;#'`
5. Find everything about information on John in this file.
6. Translate the file in turtle and save it as human_2013.ttl
7. In the turtle version find everything about Laura.