# OWL 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

## Query data augmented by an OWL schema

Make a copy of the human.rdfs file, name it humans.owl and use it for the rest of the session. For each of the following statements, specify a SPARQL query that shows that the difference before and after running the OWL inferences: you will find that answers to these queries are different depending on whether you load the ontology humans.rdfs or the humans.owl you modified.

1. Declare that hasSpouse and hasFriend are symmetrical properties.
2. Declare hasAncestor as transitive property.
3. Declare that hasChild is the inverse hasParent property.
4. Declare the disconnection between Male and Female. Violate the constraint in the data, check the results and then remove the violation you created.
5. Declare that the class Professor is the intersection of the class Lecturer and Researcher class.
6. Declare that the Academic class is the union of classes Lecturer and Researcher.
7. Use two restrictions to declare that any person married to a man is a woman and vice versa.
8. Use a restriction to declare that any person must have a parent who is a woman. For this last statement, you need to run the rule engine after loading the ontology and data.