Practical Session 2 – RDF and SPARQL

1 Named graphs

Using the prefix `ex1:<http://example.org/ex1/>` for all new entities (Mary, Mathieu, the graphs, the predicates, etc.) Write in RDF with the Trig syntax the following:

- In Mary's graph, it is stated that Mary was born in Thionville (`https://dbpedia.org/resource/Thionville`) and lives in Yutz. It is also stated that Yutz is close to Thionville, and that it includes a school named "School Prevert" in english and "Ecole Prévert" in French that has 120 students.
- In Mathieu's graph it is stated that Mathieu lives in Yutz and went to school in Thionville. It is also stated that Thionville is better than Yutz.
- Mary is the author of Mary's graph and Mathieu is the author of Mathieu's graph.
- In Mathieu's graph, it is also stated that Mathieu agrees with Mary's graph.

2 SPARQL

At `https://data.bnf.fr/sparql/` you will find an interface to the 'SPARQL Endpoint' of the BNF (*Bibliothèque Nationale de France*, the french national library). Write the SPARQL queries to answer the following questions:

T1: The list of 100 people: resources which type (`rdf:type`) is `<http://xmlns.com/foaf/0.1/Person>`.

T2: The same list of 100 people including their names (property `<http://xmlns.com/foaf/0.1/name>`).

T3: The list of people with the name "Victor Hugo"

T4: The list of resources that are the same as someone named "Victor Hugo" (property `<http://www.w3.org/2002/07/owl#sameAs>`)

T5: The list of resources of type `<http://www.w3.org/TR/owl-time/Instant>` connected (in anyway) to someone named "Victor Hugo" and how they are connected to that person.

T6: The list of properties that apply to those things (instants connected to Victor Hugo), that is, the list of resources used as predicates in triples where those instants are subjects.

T7: Based on all of this, give the labels (`rdfs:labels`) of all the important life events of everybody whose family name (`<http://xmlns.com/foaf/0.1/familyName>`) is "Hugo".

3 Project

For the project, you will be asked to build a knowledge graph of children stories. The idea is that your knowledge graph could be used by somebody researching a particular theme, plot, type of character or other aspects of children stories to find relevant ones, or to compare stories with each other on those aspects, or to analyze trends in the way stories have evolved over time and cultures. As the lectures and practical sessions go, we will learn more about how that could be done and how we could use it.

This task is to be started at the end of this practical session and completed before the next one. Take notes of what you do and find! You will be asked to submit a short report on the results of this and the next few project related tasks in a few weeks.

The first step of building your children stories knowledge graph is to look at what exists. Explore the content, using SPARQL and HTTP queries on existing SPARQL endpoints/RDF Graphs, look for elements that could be useful: existing representations of children stories, types of resources used

to described stories and relevant other concepts, properties required to represent stories and relevant aspects. Start with the following SPARQL endpoints, but also use google to see if you can find others:

- BNF: `https://data.bnf.fr/sparql/`
- DBpedia: `https://dbpedia.org/sparql`
- Wikidata: `https://query.wikidata.org/`
- Europeana: `https://sparql.europeana.eu/`
- National Library of Finland: `https://data.nationallibrary.fi/bib/sparql`
- Linked Movie Database: `https://triplydb.com/Triply/linkedmdb/sparql/linkedmdb`