Practical Session 4

Objective:
1. Manipulate an RDF store
2. Define a small KG from structured data
3. Transform structured data into an RDF graph using OntoRefine
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For these exercices, you have to :

- Downoal and install GraphDB: https://www.ontotext.com/products/graphdb/download/

- Download and install OntoRefine: https://www.ontotext.com/products/ontotext-refine/

Exercise 1:

Downolad the LUBM ontology with its instance as an Ntriple file.

Import the file in GraphDB.

Exercise 2:

Using this Sparql endpoint (OpenLink Virtuoso SPARQL Query Editor (dbpedia.org)), execute the following queries

Prefixes:
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX dc: <http://purl.org/dc/elements/1.1/>
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbpedia2: <http://dbpedia.org/property/>
PREFIX dbpedia: <http://dbpedia.org/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>

Query Q1:
SELECT ?person (str(?name) as ?name) (str(?birth) as ?birth) ?birthplace ?book WHERE {

?person a dbo:Writer .

?person dbo:birthPlace ?birthplace.

?person dbo:birthDate ?birth .

?person foaf:name ?name .

?book a dbo:Book .

?book dbpedia2:author ?person

} ORDER BY ?birth

LIMIT 30

Query Q2:

SELECT distinct ?person (str(?name) as ?name) ?birthplace ?work (str(?birth) as ?birth) WHERE{

?person a dbo:Artist .

?person dbo:birthPlace ?birthplace .

?person dbo:birthDate ?birth .

?person foaf:name ?name .

?work dbo:notableWork ?work

}order by ?birth

LIMIT 30

1. What is the requirement expressed in each query

2. Downolad the results of both queries in two CSV files

3. Using OntoRefine, import the result files of queries Q1 and Q2:

   For the result file of Query 1:

   - Rename the column Person to Writer
   - Transform the values of the column "birth" to date values
   - Convert these result data into RDF

   For the result file of Query 2:

   - Rename the column Person to Artist
   - Rename the column Work to NotableWork
   - Transform the values of the column "birth" to date values
   - Convert these data into RDF

4. Import the two RDF files generated into GraphDB