Hands-on session: Querying Wikidata

- Go to Wikidata (https://www.wikidata.org/wiki/Wikidata:Main_Page), do a few searches in the search bar and navigate to related items or properties to get familiar with Wikidata.

- Go to https://query.wikidata.org/. Test a few queries from the examples set.

- Write the SPARQL queries to obtain the following information. You can find the entities identifiers you need by looking for them in Wikidata.
  
  - List of Albert Einstein’s children with their birth date and birth place.
  - Subproperties of the property student.
  - List of students of Einstein, of the students of his students, etc.
  - List of singers (occupation singer) having French and German citizenship.
  - List of singers having French or German citizenship.
  - List of paintings from European painters that are located in France.
  - List of French presidents with the start date of their presidency.
  - List of presidents of the French Fifth Republic with the start date of their presidency.
  - Number of presidents of the French Fifth Republic.
  - List of proteins encoded by some gene located on chromosome Y.

Tips:

- To get labels in the answer, add ?variableLabel to the SELECT clause for each ?variable in SELECT clause and the following at the end of the WHERE clause (see examples).

```
{SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }}
```

- Pay attention to prefixes, especially for Wikidata properties: Pxxx turns into wd:Pxxx when used as the subject or object of a triple but into wdt:Pxxx when used as the predicate. In particular you should not use the same variable in predicate and object or subject position.

- All details about RDF encoding (statements reification) and prefixes are available here: https://www.mediawiki.org/wiki/Wikibase/Indexing/RDF_Dump_Format

- See Table 1 for property paths constructors. Don’t forget parentheses when needed.

<table>
<thead>
<tr>
<th>path1/path2</th>
<th>path1 followed by path 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>◁path1</td>
<td>backwards path (object to subject)</td>
</tr>
<tr>
<td>path1</td>
<td>path2</td>
</tr>
<tr>
<td>path1*</td>
<td>path1 repeated zero or more times</td>
</tr>
<tr>
<td>path1+</td>
<td>path1 repeated one or more times</td>
</tr>
</tbody>
</table>

Table 1: Simple property paths constructors