Complete the exercises below using the **Snap SPARQL plugin** for Protégé. The ontology to be used in this session is located in the link below. Open it using the **Open from URL** option in Protégé, which can accessed from the **File** menu (`File > Open from URL`).

Ontology: `https://tinyurl.com/posc1703-sparql`

1. Finding grocery items

(a) Query for subclasses of `FoodStuff`

(b) Query for the `rdfs:label` of subclasses of `FoodStuff`

(c) Order the result set by `rdfs:label`

2. Individuals

(a) Query for countries

(b) Query for what is located in `Scotland`

(c) Query for what is located in what

3. Meta queries

(a) Query for all the ontology classes

(b) Query for all the ontology individuals

4. More queries with multiple variables

(a) Select `?sub` where `?sub` is a subclass of `?super`

(b) Select `?sub` and `?super` where `?sub` is a subclass of `?super`

(c) Change the query to select only `?sub`, but use `SELECT DISTINCT`

5. Products

(a) Query for products sold by `WholeFoods`

(b) Query for products that cost less than $10 (assume that "$" is the currency unit used)

(c) Order products by `price`

(d) Query for products that are made in `Scotland`

(e) Query for products that are made in `Europe`

6. Using `MINUS`

(a) Query for the `rdfs:label` of `GroceryItems` that contain `Gluten`

(b) Query for the `rdfs:label` of `GroceryItems` that contain `Gluten` but not `Soy`

7. Advanced queries using `OPTIONAL` and `FILTER`

(a) Query for `FoodStuffs` and their `rdfs:label`, *where they exist*

(b) Select `FoodStuffs` that have an `rdfs:label` with a portuguese ("pt") language tag

(c) Select `FoodStuffs` with `rdfs:label` in portuguese, german ("de"), or no language

(d) Select `FoodStuffs` with "Shortbread" in their `rdfs:label`