

Short test 2
17th December 2025

Assignment

Download zip file with data from https://cw.fel.cvut.cz/wiki/_media/courses/osw/zadani-2.zip.

Look at the file *summits-data-schema.ttl* (and its smaller version *summits-sample.ttl*).

This file contains list of prominent alpine peaks over three thousand meters.

Task number 1 – 2 points

- Using OWL expression create a new classes french-border-summit, austrian-border-summit, swiss-border-summit and italian-border-summit, containing all peaks lying in given country and at least one other country (are on the border). I suggest to create new *mapping.ttl* file for mappings. Work with *summits-sample.ttl* file!!!

Task number 2 – 2 points

- Upload data to GraphDB with OWL-Max ruleset. Using SPARQL INSERT add new triple for each summit with firstAscentYear. This triples predicate is summit-s:firstAscentCentury and its value is either 18thCentury or 19thCentury based on the firstAscentYear. NOTE: retype xsd:gYear to string and then to integer to compare it. Insert new triples in the new named graph (so I can easily find out which are they).

Task number 3 – 1 point

- Create SPARQL query returning names and elevation of all oitalian border fourthousanders in the following area (solve whole task with SPARQL query):

```
POLYGON((7.097167968750001 46.07513600195051,7.097167968750001  
45.63900747494935,8.12164306640625 45.62364259827808,8.14910888671875  
46.06370275591752,7.097167968750001 46.07513600195051))
```

Edited *summits-data-schema.ttl* or *mapping.ttl* and both SPARQL queries with .rq suffix compress and upload to brute.