

# Semantic Web Technologies

## Exercise 10: Other Languages

### 10.1. Explore KG embeddings with KGvec2Go

Given the endpoint <http://134.155.108.195/query.html> for exploring Knowledge Graph embeddings, search for the following concepts:

- Germany
- accomplish

Now explore the following word analogies (you can use the python script uploaded in Ilias):

- man, boy | girl, ?
- black, white | up, ?

### 10.2. SWRL Intro

Define a small ontology about family relationships:

A person has parents and can be a spouse or brother of another person.

Define a SWRL rule which defines the class “ChildOfMarriedParents” and creates the relation “hasUncle” where necessary.

In Protégé enable the SWRL tab by clicking on “Window”, “Tabs”, “SWRLTab”.

The SWRL syntax for SWRLTab can be found here:

<https://github.com/protegeproject/swrlapi/wiki/SWRLAPISWRLSyntax>

### 10.3. SWRL

Model the following ontology using OWL and SWRL:

Pieces of music consist of chords which follow each other (each piece has a first chord, and each chord a unique predecessor and successor). There are major and minor chords (and only these). A happy piece of music contain only major chords, a sad piece has only minor chords. For a not quite sad piece, there are never two minor chords in succession.