
Exercise Sheet 12

Submit until Wednesday, February 6 at 4:00pm

This exercise sheet is about processing simple *SPARQL* queries on a given ontology by translating them to *SQL* queries on an appropriately constructed *SQLite* database.

Exercise 1 (5 points)

Download the ontology from the Wiki and create a *sqlite3* database file *ontology.db* from them, as demonstrated in the lecture.

Exercise 2 (5 points)

Write a program *SparqlToSqlMain* that takes a simple SPARQL query (as shown on slide 10 of the lecture) and creates a SQL query that gives the desired result if issued against your database from Exercise 1.

Exercise 3 (5 points)

Translate the three natural-language queries linked on the Wiki to SPARQL queries, and process those using your database and program from the previous two exercises.

It is ok to just do the core part of the translation with your program, and then post-edit the SQL query to add additional constraints (LIMIT, DISTINCT, constraints with <> or LIKE, etc.).

Write your queries + results in files *query1.txt*, *query2.txt*, ... and also commit those to the SVN.

Exercise 4 (5 points)

Try to improve your query time by creating appropriate indexes for your database, or by creating more efficient SQL queries, or by whatever comes to your mind. Make at least one non-trivial change, and briefly discuss the improvement you obtained in your *experiences.txt*.

Report your results in the table linked on the Wiki and briefly discuss them in your *experiences.txt* along with the usual feedback. Commit everything to our SVN, in a new subdirectory *exercise-sheet-12*.