Semantic Web
Lab Assignment 3

1. Create and test queries using GRUFF.

   Use data file "VC-DB-3.rdf". You will need to make a new triple store or overwrite an existing one—**you will not be submitting it**.

   Create a SPARQL query for each description below. Test your queries within Gruff.

Query ID	Description
1	A query that gives the subject where the full name is John Smith.
2	A query that lists the two ages in the data.
3	A query that lists the full names and ages of the two individuals for which we have both name and age.
4	A query that lists the full name and age for the person who is 23.
5	A query to list the given names of both individuals in #3. Hint blank node.

   Store all queries in one text file named:
   Lab3_1_<YourID>.txt
   where <YourID> should be replaced with your first initial and lastname. In the file, have empty lines between each query and have the line before each identified with a comment of the form:
   #Query <id>
   where <id> matches the query identifier in the table, above.

See the end of exercise 2 for instructions on submittal to the eLearning site.

2. Persist graph to Jena from file and query.

   a. Use Jena to load "Monterey.rdf" into an in-memory default (i.e. un-named) Jena triple store. Print to the screen how long the insertion/loading step requires in tenths of seconds (e.g., "Load of Monterey.rdf took 2.5 seconds").
   b. Use the Query and ResultSet classes of Jena to add a query to your class that gives all information about monterey incident 1, and write the query results to the file:
      ./Lab3_2_<YourID>.xml
      in xml format, where <YourID> should be replaced with your first initial and lastname.

Hints:

- The SPARQL query, in Gruff, is:
  ```
  SELECT ?p ?o WHERE { <urn:monterey:#incident1> ?p ?o }
  ```
- An example of using Query and ResultSet in Jena can be found at:
  http://www.ibm.com/developerworks/xml/library/j-sparql/
  in the section named "Executing SPARQL queries with the Jena API"
- ResultSetFormatter. outputAsXML() provides an option to output information as an XML String which should provide the desired form.

Prepare to submit your eclipse project: If your eclipse project for Lab 3 is quite large (>30MB) you will not be able to submit it to eLearning (and we would rather you didn't, even if allowed).

So please add the following steps to preparing your submittal:

1. Delete contents of the MyDatabases/ directory (problem is likely MyDatabases/Dataset1)
2. Confirm that your project still works
3. (Again) Delete contents of the MyDatabases/ directory
4. Make your zip file

(The important thing is that your project works for the grader AND your zip file is reasonable size [does not contain the triple store]).

Please compress your eclipse project as well as the .txt file from exercise #1 into one zip file, and submit the zip file on e-learning. Name your main java file lab3_2.java.

Grading (100 points):

-100 Nothing submitted

-50 No Part 1 answer file
-5 Particular query doesn't work in Gruff

-50 Jena program not submitted
-10 Program Doesn't Run
-8 Program has wrong output
-3 Has Log4j runtime complaint
-5 Incorrect output filenames
-5 Incorrect source filenames
-10 Lacking use of Jena in-memory model