College of Charleston
Department of Computer Science
CSIS 633 Semantic Web Principles and Practice, Fall 2011
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Project #1

Create an ontology of the prerequisites map for the bachelor of computer science at CofC, as found here. Write a Java program that uses Jena as a semantic web framework. Your program will load your ontology schema and support the input of asserted triples of instance data that describe the courses that a student has taken.

Once a set of triples for a student has been entered, the program should return an audit that states whether the set of courses taken is correct within the ontology or not (giving an explanation of why not) and that further states for both cases at least one chain of remaining courses needed to graduate. You will use inference and SPARQL to do this. For example, consider the single triple stating that a student has taken CSCI220. The audit will confirm that CSCI220 is correct and then provide a list of courses that will lead to graduation. On the other hand, a single triple asserting that CSCI462 was taken will cause the audit to complain that the prerequisites for CSCI462 were not taken.

Outputs from the program to System.out are fine ... produce a narrative as part of the output that I can follow that explains what is going on with your code. A GUI is nice too!

Deliverables: ontology as OWL/XML; Java code; a suite of tests with a harness that allows for automated execution and reporting of results; example runs; a README file about your design, and please include names of libraries / instructions needed to compile your code; I want to be able to easily fire up your code and test it.

Zip all into [lastName]_PROJECT1.zip.