

Homework #2: Chapters 6 and 7

The following exercises are due at the beginning of class on March 14.

1. Do exercise 6.3 (a,b,c,d,e, and g) from the book (p. 180)
2. Do exercise 6.5 from the book (p. 181). Write propositional logic sentences using only Horned, Magical, Mammal, Mortal and Mythical as your propositions.
3. Do exercise 7.2 (a,b,f,g, and j) from the book (p. 213). Assume that H and B are constants that represent the History and Biology courses respectively, and use the following predicates:
 - Takes(x,c): student x takes course c
 - Fails(x,c): student x fails course c
 - Likes(x,y): person x likes person y
 - Student(x), Person(x), Vegetarian(x), Smart(x), Woman(x), Man(x), Politician(x) are predicates satisfied by members of the corresponding category
 - Fools(x,y,t): person x fools person y at time t
4. Add SHOE semantic tags to your web page. If you do not have a web page, then first create a simple one. Your new web page should use one or more of the existing SHOE ontologies, which can be found at <http://www.cs.umd.edu/projects/plus/SHOE/onts/>. The univ-ontology, v.1.0 and personal-ont, v.1.0 ontologies should be particularly useful. Be sure to assign meaningful URLs as keys for all instances, and provide annotations that partially describe those instances which are referred to in your document. You should have at least ten assertions (each CATEGORY or RELATION element is an assertion) on your page and the page must be valid SHOE. Each assertion should be as specific as possible while still being true, and redundant assertions should be avoided. For example, if you have the choice between stating that your category is Person or Student, you should only state the Student category, since the Person category can be inferred from this. Submit your final web page to the SHOE Search website at <http://www.cs.umd.edu/projects/plus/SHOE/search/submit.html>. Send an e-mail containing the URL of your web page and a copy of the HTML file to the TA (kex2@lehigh.edu). Write out first-order logic sentences that are equivalent to your SHOE assertions and turn them in with the rest of the written assignment.

When doing part 4 of this assignment, you may find the following resources useful:

- Building Web Pages – Information on how to set up and author web pages at Lehigh.
At: <http://www.lehigh.edu/~www/provider.html>
- The SHOE Web Site - Contains pointers to resources and tools for the SHOE language.
At: <http://www.cs.umd.edu/projects/plus/SHOE/>
- The SHOE Specification - The definitive reference on the SHOE language.
At: <http://www.cs.umd.edu/projects/plus/SHOE/spec.html>
- A SHOE Tutorial - A short tutorial about how to add SHOE to web pages.
At: <http://www.cs.umd.edu/projects/plus/SHOE/tutorial.html>
- SHOE Ontologies - A catalog of existing SHOE ontologies.
At: <http://www.cs.umd.edu/projects/plus/SHOE/onts/>
- The Knowledge Annotator - A GUI interface for adding SHOE to web pages. Available both as an applet and a downloadable application. You don't need to use it, but it may make the assignment easier for you.
At: <http://www.cs.umd.edu/projects/plus/SHOE/KnowledgeAnnotator.html>
- SHOE Validation Service - A form that allows you to submit a URL and check that the document contains valid SHOE.
At: <http://www.cs.umd.edu/projects/plus/SHOE/search/validate.html>
- SHOE Submission Page – Allows you to submit your page to the SHOE Search Engine.
At: <http://www.cs.umd.edu/projects/plus/SHOE/search/submit.html>

- SHOE Search Engine – Allows you to query the pages you and other students have submitted.
At: <http://www.cs.umd.edu/projects/plus/SHOE/search/>