CS3723 HOMEWORK #11, DUE: 9AM, 11/17/10

OVERVIEW OF OBJECT-ORIENTATION (Chapter 10)

1. List the four steps of Grady Booch’s approach to object-oriented design.

2. List the four main language concepts for object-oriented programming.

3. What is dynamic lookup (a.k.a., dynamic dispatch)?

4. How does dynamic lookup (e.g., a method invocation in Java) differ from an ordinary function call (e.g., in C)?

5. What is the key word for declaring a member function with dynamic lookup in C++?

6. What is the basic principle associated with subtyping? Give its name, and define it.

7. In the object-oriented programming community ‘polymorphism’ is often associated (or even defined as) dynamic lookup. How does this meaning of polymorphism relate to the definition of subtype polymorphism in Mitchell?

8. How does Mitchell define inheritance?

9. What is the difference between subtyping and inheritance? How do the keywords implements and extends relate to subtyping and inheritance in Java?

Note: If you collaborated with your classmates or used their notes, please note which classmates you collaborated with. If you use an external source, besides the text book, lectures, notes provided by the instructor, and your own intellect, please cite that source. Use quote marks if you are quoting material word-for-word from any source (including the text book).