CSE 110 Final Exam Study Guide
Winter 2016

1. You should be able to determine when it is appropriate to use each of the following as part of software design: Subtyping (Inheritance), Interfaces (Pure Abstract Base Classes), and Composition, as well as correct related defects in existing designs, whether presented in code or UML.

2. You should understand the costs of violating each of the SRP and DRY principles as well as be able to detect and correct violations present in designs, whether presented in code or UML.

3. You should be able to read and prepare simplified UML, as we have used in class.

4. For each of the below design patterns, you should know the name of the pattern, the situation(s) in which it is most likely best used, and the teaching of the pattern w.r.t. addressing the situation(s). You should be able to draw and explain the related UML and/or idiomatic code (code that implements the pattern), use the patterns to solve problems from scratch or as part of refactoring, which includes detecting misuse/misapplication of the patterns.

   Hint: Wikipedia is my absolute favorite resource.

   a. Adapter
   b. Decorator
   c. Delegation
   d. Factory, Abstract
   e. Factory, Method
   f. Facade
   g. Mediation
   h. Model-View-Controller
   i. Observer
   j. Strategy

5. You should understand what is required to perform each of the following, the process for performing each of the following, and how each of the following contributes to quality software:

   a. Unit testing
   b. Integration Testing, generally
   c. Behavior(Scenario)-Based Testing, specifically
   d. Design Review
   e. Code Review
   f. Performance Evaluation (Peer evaluations, use of evaluations, etc)

As always, we’re here to help. Please let us know how we can be of service.