

CS 494 Exam 1
Spring 2006

Name: _____

E-mail ID: _____

There are four questions on this exam, and each one is worth the same amount (25 points). Please pace yourself accordingly! It's expected that the first question will take 20 minutes, and the remaining three will take 10 minutes each. Your mileage may vary, of course.

Question 1	_____/25
Question 2	_____/25
Question 3	_____/25
Question 4	_____/25
Total	_____/100

Question 1 (25 points): For 10 of the 12 design patterns that we have studied, give a BREIF description of each. This means you can leave two patterns out. If you answer all 12, I'll count the highest 10. The description should include what problem the design pattern solves and/or how it manages to solve it. Ideally, each design pattern's description should not exceed 30 words (we won't take off points if you go over, but if you write an entire essay, you won't get credit).

Iterator

Observer

Singleton

Mediator

Facade

Memento

Strategy

Abstract Factory

Composite

Builder

Visitor

Flyweight

Question 2 (25 points): List each of the five principles of OO design that we have studied, and briefly describe each (again, ideally no more than 20 words for each description). Note that these are not the GRASP patterns that were studied last week.

Question 3 (25 points): Consider the four types of multiple inheritance: non-repeated, repeated/replicated, shared, and mix-in. Briefly describe each, and note how it is different than the others. In particular, you need to explain the difference between repeated/replicated and shared.

Question 4 (25 points): Write a version of your UML domain model for your course project. This domain model should include about a half-dozen or so classes. If yours has more, pick the most interesting 6 or so classes – but make sure you pick ones that have interactions between them.