

CS209 2nd Midterm Prep

Software Development

Development Models – waterfall, iterative

Testing

Different levels of testing (unit, integration, system, ...)

Black-box testing vs. White-box testing

Coverage criteria

JUnit testing framework

- Benefits, limitations
- How to write JUnit test cases

Design Principles

Open-closed principle

- Open to extension, closed to modification
- Liskov substitution principle

DRY (Don't repeat yourself)

Shy code (coupling)

Code smells

Design patterns

Appropriate solutions

Defending solutions

Refactoring

Resolving code smells using abstraction

Unix commands

- grep, find
- using "pipe": |
- using commands within commands with backtics: ``

GUI Programming

Common components, containers

Layout Managers

Event-driven programming

- ActionListeners, Events, inner classes, anonymous inner classes, adapter classes

Jar Files

Deploying Java applications

How to create, extract, use

What I expect from you on the exam:

- To know Java/OO-programming/design terminology
- To describe a design solution and be able to defend it
- To know the appropriate Linux commands and how to use them, given a typical situation
- To be able to read, understand, and write Java programs, with or without documentation
- To be able to write a program (given an algorithm or creating your own algorithm, given a problem) or class
 - o Syntax must be very close to correct (correct keywords, punctuation, special characters, variable naming, operations)
 - o Since it's on paper, there is some leniency

Suggestions on how to prepare:

- Exam is *terminology heavy*. Much of the terminology, you have been using for a long time; some is new. Make sure you know the terminology (much of it is in the list above).
- Practice reading through programs, tracing through them, and saying what the output should be
 - o Review your assignments
- Read through slides for vocabulary, review questions, exercises
- Think about the various designs we have discussed in certain situations and what the tradeoffs are to each design.