CSCI209 1st Midterm Prep

General Topics

Java
- Characteristics
  - Statically typed, OO, compiled, …
- Components
- Benefits
- How to write/run programs
- Similarities to, differences from Python

Syntax, semantics of
- Comments, including Javadoc
- Variable declaration
- Using primitive types
- Arrays
- Control structures
- Loops
- Static fields, methods
- Final fields, methods, classes
- Overloaded methods
- Command-line arguments
- equals method (vs ==)
- Parameter passing: by value

Object oriented concepts
- Classes, objects, constructors, methods, state/instance variables/fields
- Inheritance – parent/child classes, abstract classes, interfaces
- Polymorphism, dynamic dispatch
- Overriding methods
- Encapsulation
- Access modifiers

Exceptions
- Types of exceptions
- Handling exceptions
- Benefits, limitations

Collections Framework
- Common interfaces, implementations
- Generics
- How/when to use
What I expect from you on the exam:

- To know Java/OO-programming terminology
  - Need to be able to communicate with others about your design/implementation
- To be able to read, understand, write, and debug Java programs, with or without documentation

What I do NOT expect from you on the exam:

- Knowledge of general (rather than the specific ones we’ve been talking about so far) software development concepts, *ilities
  - next midterm
- To know the API for Java classes that we have covered/used.

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). I also hope that, with all the practice we’ve done with reviewing terminology, your knowledge of the terminology should be close to automatic.

- Practice reading through programs, tracing through them, and saying what the output should be
  - Review your assignments

- Read through slides for vocabulary, review questions, exercises