

CSCI209 1st Exam Prep

General Topics

Java

- Characteristics
 - o Statically typed, OO, compiled, ...
- Components
- Benefits
- How to write/run programs

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

Packages

Eclipse

What I expect from you on the exam:

- To know Java/OO-programming terminology
 - o Need to be able to communicate with others about your design/implementation
 - o Example: if the question is “What are the benefits of using arrays?”, do not answer with any variation of “Because arrays are good.” Tell me *why* arrays are good (e.g., “arrays allow us to group data of the same type together, which makes passing them around and processing them easier.”)
- 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
 - o Next exam
- Similarities to, differences from Python
 - o Next exam
- To know the API for Java classes that we have covered/used.
- Perfect essays, complete sentences
 - o Example: if the question is, “What are the benefits of using arrays?”, I do not expect you to answer with, “The benefits of using arrays are the following: ...” I just want to know about what follows “the following”.

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
 - o Review your assignments
- Read through slides for vocabulary, review questions, exercises