

# Final Exam Study Guide

To succeed on the final exam, you should be prepared to do the following:

## Java Syntax

1. Apply Java syntax to write programs that include:
  - a. Mathematical Expressions
  - b. Variables
  - c. Sequence
  - d. Input and Output
  - e. Functions
  - f. Decisions
  - g. Loops

## Classes and Objects

2. Describe the purpose and use of classes and objects.
3. Describe the difference between classes and objects.
4. Evaluate the appropriateness of using classes to solve a problem.
5. Write a program using classes and objects to solve a problem.

## Arrays and Lists

6. Explain the difference between Scalar types and Aggregate types.
7. Describe the purpose of Arrays and Lists in programming.
8. Describe how lists and arrays operate in a computer.
9. Evaluate the appropriateness of using a list in a program.
10. Write programs that use lists and arrays to solve problems.

## Object Oriented Programming

11. Describe the purpose of the object oriented design principles (Encapsulation, Data Hiding, and Composition).
12. Evaluate the appropriateness of using O.O. design principles to solve a problem.
13. Write programs that utilize basic O.O. design principles to solve a problem.