

CSCI 145 -- Review for Exam 1

Text Book

- Chapter 1
 - Self-review questions
 - Go over some Exercises
- Chapter 2
 - Self-review questions
 - Go over some Exercises
 - Try some programming projects
- Chapter 3
 - Self-review questions
 - Go over some Exercises
 - Try some programming projects
- Chapter 4
 - Self-review questions
 - Go over some Exercises
 - Try some programming projects

Review

- PAs 1 to 4 including questions from lab manual
- In-class Exercise 1 and Pop Quiz 1
- Java Programming Language -- basic syntax, compiler and interpreter, types of errors, JDK, IDE, Java byte code
- Primitive Data Types -- integers, floating-points, characters, boolean
- References -- reference variables vs. primitive variables, difference in assignment
- Input/Output -- System.out (print and println), System.in, and Scanner (next(), nextLine(), nextInt(), and nextDouble())
- Expressions -- formation of expressions, order of evaluation ($5 + 3 * 2$), and conversions (widening, narrowing, and casting)
- Some Common Classes -- String class, Random class, Math class, NumberFormat class, DecimalFormat class
- Graphics -- JavaFX, Java coordinate, (0, 0) is the top left corner, some basic shapes like Rectangle and Circle
- Methods -- parameters, return type, method headers, set up and use simple methods
- Classes and Objects -- constructors, visibility modifiers, create and use simple classes, wrapper classes, creating objects
- UML -- what is it? class diagram with name, attributes, and operations
- Program Development -- analysis, design, code, and test, problem solving

Some Review Questions/Exercises

- Generate a random number between -5 and 20, a random even number from 2 to 10.
- Differences between a primitive type and a reference type.
- Draw a diagram showing *int* variable a with value 5 and *String* variable s with value “Hello”. Show updated diagram after a = 7; and s = “Good bye”.
- Determine output for a segment of code like ex 2.3.
- Translate pseudocode to Java code.
 1. Input integers a and b
 2. Output twice the sum of a and b
- What is a constructor and how do you set one up?
- Explain why Math class is different from most other classes.
- Set up a method that accepts some parameters and performs a task (for example, a method that receives two integer values and returns a floating-point average).
- When we draw a Rectangle with x = 100, y = 50, width = 200, height = 120, where does it go on a 600 by 400 window?
- Perform some work with a string using various string operations.
- Complete the code for a partial class such as getters, setters, and toString().
- Given an amount like 67 cents, compute number of quarters, dimes, nickels, and pennies.