Intermediate Material

SD Girls Coding Camp 2016

Day 1

Introduction

- This course is designed to teach those of you who already know the basics of coding more advanced concepts
- Each day will begin with a presentation, after which you will be assigned a project
- Some days will also include guest speakers
- Today, we will begin with a review of basic java syntax and some concepts such as data types, loops, and input/output

Java Basics

- public static void main (String[] args) begins processing, which means your code will start running after this point
- Almost every line of Java ends with a semicolon, but there are a few exceptions!
- // indicates a comment, and whatever is written in that line will be ignored
- System.out.println("hello") will print "hello" in the terminal

Variables

- Instance and class variables can be accessed anywhere in a class
- Local variables can only be accessed in the method they are declared in
- Variables are declared, instantiated, then initialized

Common Data Types

- int (any whole number)
- double (any decimal number)
- boolean (can either be true or false)
- String (any word or sentence)

Helpful Syntax

- \+ (addition), - (subtraction), * (multiplication), % (division), % (modulus/remainder)
- ++ (increment), -- (decrement), == (equal to), != (not equal to)
- && (logical and), || (logical or), ! (logical not)
- += (a += b is equal to a = a + b) <- this works for -, *, % as well!

Loops

- While loop: repeats statement while given condition is true (tests condition before loop body)
- For loop: executes sequence multiple times
- Do while loop: checks condition after loop body

ConsoleIO

- I/O stands for input/output
- To use a ConsoleIO method, you must create a ConsoleIO object (ConsoleIO console = new ConsoleIO();)
- Methods:
- int n = console.readInt();
- double d = console.readDouble();
- String token = console.readToken();
- String line = console.readLine();

Pig Latin

- Prompt the user for a word to translate into pig latin
- For words starting with a vowel, add "yay" to the end
- Otherwise, take all consonants up to first vowel/"y" and move it to end of word...add "ay"
- Output the original word translated into "Pig Latin"