Java Introduction

Java

- Object Oriented Language (not in C)
- No Pointers
- Similar syntax to c for : for, while loops, if-else statements and declaring and initializing variables.

- Other OOP based languages
  - C++: Leader of C family.
  - C#: For those with C++ background, come in JAVA but found most things are missing from C++.
  - Python, Ruby, Smalltalk etc.

What is Object-Oriented Programming?

- Take a look around you -- everywhere you look are objects: books and buildings and food and even you. Objects have two major components to them:
  - **attributes:** A list of relevant properties (e.g. weight, color, size, solidity, shape, etc…), and
  - **Methods:** Some number of behaviors that they can exhibit (e.g. being opened, conduct heat, etc…).
- Rather than being focused on writing functions, we're focused on defining objects that have a well-defined set of behaviors.

Classes and Objects

A class is a user defined blueprint or prototype from which objects are created. It represents the set of properties or methods that are common to all objects of one type.

#1: Constructor

- To initialize variables to variables of a class
- Constructor have no return type.

Access Modifiers

- There are two types of access modifiers for encapsulation (remaining one for inheritance, which is 'protected')
  - public
  - private

- public
  - Can be accessed inside class definition.
  - Can be accessed outside class by objects.
- private
  - Can be accessed inside class definition.
  - **Can't** be accessed outside class by objects.

Getters and setters

- Getters are used to get the value of attributes(variables) of the class.
- Setters are used to set their value