Lesson 04 Notes

# Objects in Programming

## Classes

* A class is like a blueprint, but it also contains parts/tools necessary to “create” the desire thing
  + Contains everything you need to duplicate an object
  + Ex: If you want to build a car, don’t build from scratch every time, instead build factory
    - Factory=like “class”

# Methods

* A program is made up of many smaller mechanism that help produce the desired result
  + These smaller mechanisms are known as “methods”
* Declare methods within classes using the following format:

accessType returnType methodName()

{

//statements go here

}

* accessType controls where method will be visible (we’re working with public vs private)
* return determines kind of data returned by class
* method name = unique ID

## Parameters

* method parameters allow us to perform the same function with different inputs
* Format:

accessType returnType methodName(<parameters>)

{

//statements

}

## Instantiating an Object

* Static methods can work independently of objects
* Must instantiate non-static objects
  + Format: ClassName objectName = ClassName();

## Calling Methods on an Object

* After instantiating, can call methods using dot notation
* Format: objectName.methodName(<parameters>);
  + Aka method “call”

# Lesson\_04 Notes Questions (Notes)

1. The main method needs to be “public” because this way the method can be called on by external programs and classes. This means that in order to successfully run this method in Java, we must use “public” for the main method.
2. The main method needs to be “static” because without it, the method is non-static and must be attached to an object in order to function. However, with “static,” the method is able to operate independently and be called on by Java.
3. We need parameters so that we can feed in similar but different data into the method without having to make drastic changes to the program. They enhance our use of methods by streamlining our program and methods use.
4. Static methods can exist independent from an object while non-static methods cannot. Thus, we need to create an object to use a method that is non-static and not for static methods.