**Assignment 2**

* Why we need packages in java?

All these classes classified in a particular format and they are putting into one particular folder and that folder in Java therefore packages.

* What is the default imported package?

Java.lang package

* What is Class? What is Object?

a blueprint for objects. A class is a user-defined type that describes what a certain type of object will look like

object:n encapsulation of data along with functions that act upon that data.

* Why we need constructor?

Initialize the instance variable of the class

If it does not assign any value

* What is the default value of local variable? What is the default value of instance variable?

Local variable should be initialized otherwise they will show error.

If it does not assign any value for instance variable the string will be null double will be 0.0 int will be 0 Boolean variable will be false

* What is garbage collection?

clean up unuse object in the heap.

* The protected data can be accessed by subclasses or same package. True or false?

True

* What is immutable class?

All data fields must be private

There cannot be any setter methods

Declare the class as final so it cannot be extended

Make all mutable fields final so that its value can be assigned only once.

* What’s the difference between “==” and equals method?

== is checking memory location of two objects, if == checking for primitive type that is true because the primitive type is referring to the value not memory location

* What is wrapper class?

Provides a way to use primitive data types as reference data types reference data types contain useful methods

Primitive wrapper

Boolean Boolean

Char Character

Int Integer

Double Double

* What is autoboxing?

Autoboxing = the automatic conversion that the java compiler makes between the primitive types and their corresponding object class. These primitive values to the corresponding wrapper class

* StringBuilder is threadsafe but slower than StringBuffer, true or false?

False

* Constructor can be inherited, true or false?

False

If constructors were inherited in child class then child class would contain a parent class constructor which is against the constraint that constructor should have same name as class name.

* How to call a super class’s constructor?

Super()

* Which class is the super class of all classes?

Object class.

* Create a program to count how many files/folders are there inside one folder.
* the count method should take a parameter called Criteria like this: count(Criteria criteria){}
* For Criteria class, multiple conditions should be included such as: folder path, includeSubFolder or not, the extension of the file be counted and so on.
* Optional: Take the input from keyboard.
* Take care of the invalid inputs. Exception handling.
* Get proper result displayed.  
  ”There are XXX file(s) and XXX folder(s) inside folder XXX with extension XXX.” or something user friendly.