**Assignment 2**

1. Why we need packages in java?

Package in java can prevewnt naming conflicts, control access and make searching, locating and usage of classes, interfaces, enumerations and annotations easier.

1. What is the default imported package?

The java.lang package.

1. What is Class? What is Object?

Class is a blueprint of object. And object is a instance of a class.

1. Why we need constructor?

A constructor initialize new object or instance of the class. Without constructor, there will not be any object created.

1. What is the default value of local variable? What is the default value of instance variable?

There is no default value for local variables, they need to be declared and assigned before use. The default value of instance variable is different depend on the variable type. For numbers the default value is 0, Booleans is false, and object reference is null;

1. What is garbage collection?

Garbage collection is a process of determine what memory is no longer being used by the application and release this memory for other uses.

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

True

1. What is immutable class?

An immutable class is once an object is created, we cannot change its content.

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

In object comparison, == will compare the reference of the object, or are they pointing to the same memory location. And equal method compares the value in the object.

1. What is wrapper class?

A wrapper class is a class whose object wraps or contains primitive data types. A wrapper class provide a way to use primitive data type as a object.

1. What is autoboxing?

Autoboxing is when java converting an object of primitive type to its corresponding wrapper class object automatically. It happens when a primitive type is passed as a parameter to a method that expects an object of corresponding wrapper class, or assigned to a variable of corresponding wrapper class.

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

False

1. Constructor can be inherited, true or false?

False

1. How to call a super class’s constructor?

super();

1. Which class is the super class of all classes?

Object

1. 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.