**Assignment 2**

1. Why we need packages in java?

Prevent naming conflict

1. What is the default imported package?

Java.lang

1. What is Class? What is Object?

Class is the aggregates of data fileds and operation.

Object is an element of class

1. Why we need constructor?

To initialize the instance

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

0

1. What is garbage collection?

To determine the memory is no longer be used and then recycle

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

True

1. What is immutable class?

A class can’t be changed

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

== compare reference, equal compare value.

1. What is wrapper class?

Use primitive type as object.

1. What is autoboxing?

turn primitive type into wrapper class correspondingly.

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

False.

1. Constructor can be inherited, true or false?

Ture

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

super

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

Java.lang.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.

class Criteria {

public String folderPath;

public boolean isFile;

public String extension;

public Criteria[] children;

}

public static void count(Criteria criteria) {

if (criteria.isFile) {

System.out.println("This is a " + criteria.extension + " file.");

} else {

int folderCount = 0;

int fileCount = 0;

for (Criteria p :path) {

if (path.isFile) {

fileCount++;

} else {

folderCount++;

}

count(child);

}

System.out.println("There are " + folderCount + " folders and " + fileCount + " files in this folder " + folderPath + ".");

}

}