Assignment 1

Question: WAP to show the difference between Public and Default access specifiers

Answer: In Java, access specifiers are used to control the visibility or accessibility of variables, methods, and classes within a program. There are four types of access specifiers in Java: public, private, protected, and default (also known as package-private). In this example, we will focus on the differences between the public and default access specifiers.

Public Access Specifier:

A public access specifier allows the associated variable, method, or class to be accessed from anywhere in the program, regardless of the class or package in which it is defined. This means that any class or package can access a public element. The syntax for declaring a public variable is as follows:

```
public class MyClass {
   public int myPublicVariable;
}
```

Default Access Specifier:

A default access specifier (also known as package-private) allows the associated variable, method, or class to be accessed only within the same package in which it is defined. This means that any class or package outside of the package cannot access a default element. The syntax for declaring a default variable is as follows:

```
public class MyClass {
   public int myPublicVariable;
   int myDefaultVariable;
}
```

In this example, we have a public class named MyClass that contains two variables: myPublicVariable and myDefaultVariable. myPublicVariable is declared as public, which means that it can be accessed from anywhere in the program. myDefaultVariable, on the other hand, is declared with the default access specifier, which means that it can only be accessed within the same package as MyClass.

If we try to access these variables from another package, we get the following error message:

```
package com.mycompany.anotherpackage;

import com.mycompany.mypackage.MyClass;

public class AnotherClass {

   public void myMethod() {

      MyClass obj = new MyClass();

      obj.myPublicVariable = 10; // This is allowed

      obj.myDefaultVariable = 20; // This will cause an error

   }

}
```

In this example, we have a class named AnotherClass in a different package than MyClass. We can access myPublicVariable because it is declared as public, but we cannot access myDefaultVariable because it is declared with the default access specifier. If we try to access myDefaultVariable, we will get an error message.