Government College of Engineering, Jalgaon
(An Autonomous Institute of Government of Maharashtra)

Name : **PRN :**
Subject : CO310U (Application programming Lab) **Sem :** V(Odd)
Class : T.Y. B.Tech **Academic Year :** 2024-25
Date of Performance : **Date of Completion :**

Practical No : 15

Aim: Write a java program that import and use the defined your package in the previous Problem
Required Software: OpenJDK version "1.8.0_131"
OpenJDK Runtime Environment (build 1.8.0_131-8u131-b11-2ubuntu1.16.04.3-b11)
OpenJDK 64-Bit Server VM (build 25.131-b11, mixed mode)

Java Compiler Version - JAVAC 1.8.0_131
Theory:

A java package is a group of similar types of classes, interfaces and sub-packages.Package in java can be categorized in two form, built-in package and user-defined package.There are many built-in packages such as java, lang, awt, javax, swing, net, io, util, sql etc.Here, we will have the detailed learning of creating and using user-defined packages.

Advantage of Java Package

1) Java package is used to categorize the classes and interfaces so that they can be easily maintained.

2) Java package provides access protection.

3) Java package removes naming collision.

Simple example of java package

The package keyword is used to create a package in java.

```
//save as Simple.java
package mypack;  -
public class Simple
{
 public static void main(String args[])
   {
   System.out.println("Welcome to package");
```

- }
- }

How to compile java package

If you are not using any IDE, you need to follow the syntax given below:

1. javac -d directory javafilename

For example

1. javac -d . Simple.java

The -d switch specifies the destination where to put the generated class file. You can use any directory name like /home (in case of Linux), d:/abc (in case of windows) etc. If you want to keep the package within the same directory, you can use . (dot).

How to run java package program

You need to use a fully qualified name e.g. mypack.Simple etc to run the class.

To Compile: javac -d . Simple.java

To Run: java mypack.Simple

Output:Welcome to package

```
package mypack;

public class box

{

public int l=100,b=200;

public void display()

{

System.out.println(l);
System.out.println(b);

}

}
```

3. Create sub directory with a name same that of package name under the current working directory by as follows. d:\>md mypack

4. Under this subdirectory store the above program with a file name “box.java”.

(ii) importing a package:

Steps:

1. packages can be accessed by using the import statement

General form: import pack1[.pack2].(classname/*);

Example: import java.io.*;

Here pack1 is name of top level package and pack2 is name of sub package

2. Type the following program under the current working directory and save the program with a file name “example.java”.

```
import mypack.box;

class packagedemo

{

public static void main(String args[])

{

box b1=new box();

b1.display();
}

}
```

3. Now compile the above program in the current working directory d:\

```
javac packagedemo.java
```

4. Execute the above program in current working directory

```
java packagedemo
```

Conclusion:

Name & sign of Teacher

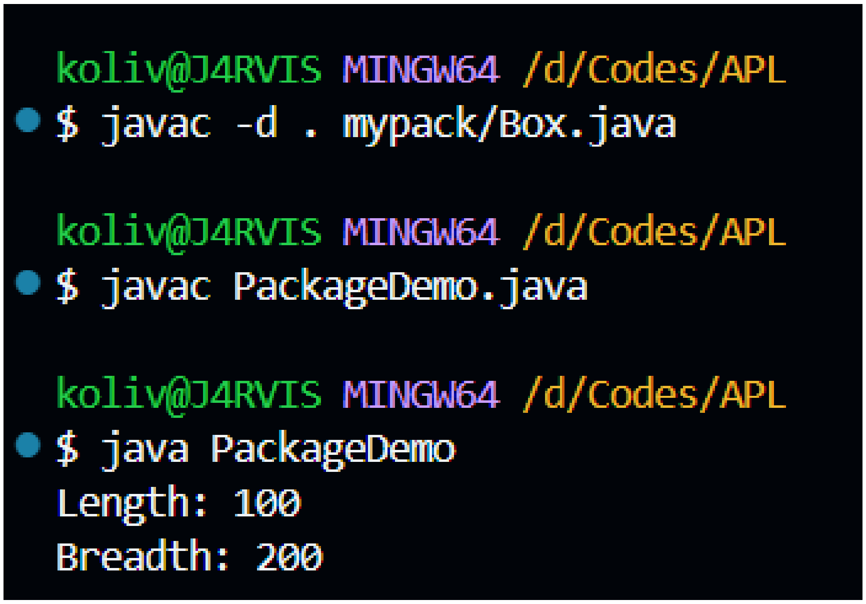
Program : mypack/Box.java

```
package mypack;

public class Box {
    public int length = 100;
    public int breadth = 200;

    public void display() {
        System.out.println("Length: " + length);
        System.out.println("Breadth: " + breadth);
    }
}
```

Program : PackageDemo.java

```
import mypack.Box;

public class PackageDemo {
    public static void main(String[] args) {
        Box b1 = new Box(); // Create an instance of Box
        b1.display();       // Call the display method
    }
}
```

Output :



```
koliv@J4RVIS MINGW64 /d/Codes/APL
$ javac -d . mypack/Box.java

koliv@J4RVIS MINGW64 /d/Codes/APL
$ javac PackageDemo.java

koliv@J4RVIS MINGW64 /d/Codes/APL
$ java PackageDemo
Length: 100
Breadth: 200
```