Lab 7: To Illustrate the concept of packages.

Theory:
A **java package** is a group of similar types of classes, interfaces and sub-packages.

Advantages:
Package divides the classes and interfaces so that it can be easily maintained.

Java package provides access protection.

3) Java package removes naming collisions.

Types of Package:

- Built in Package: java, lang, awt, javax, swing, net, io, util, sql etc.

- User-defined Package:

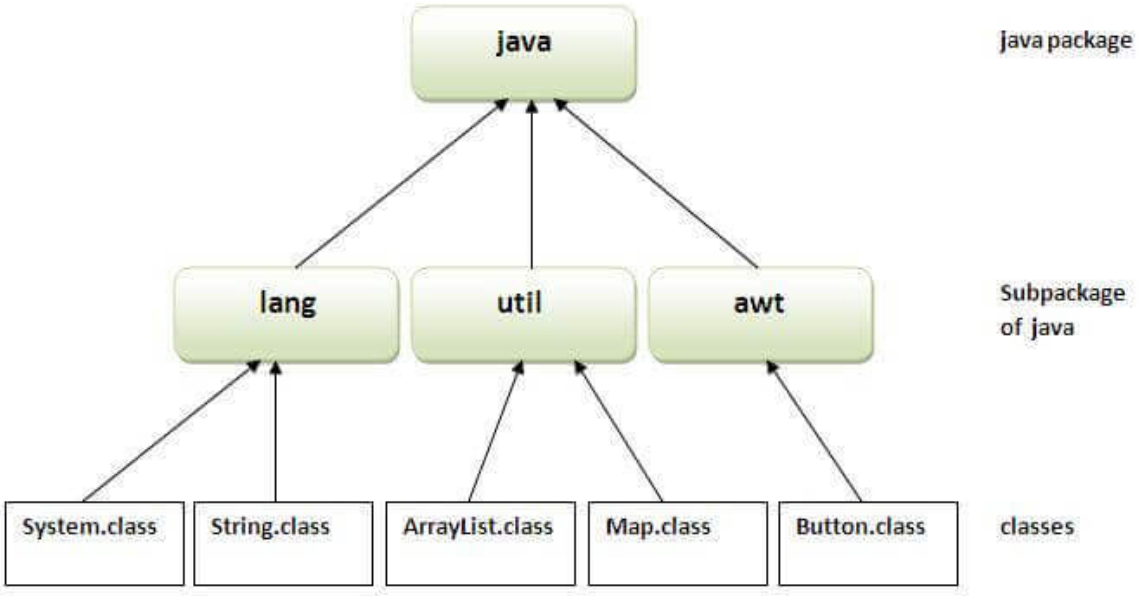

Figure: Hierarchy of Packages.

Program 1:
Example of package that import the packagename.*

// Here only one package is made.
//save by First.java inside pack1 folder

```
package pack1;
public class First{
 public void msg(){System.out.println("Hello first class");}
}
```

Method 1:

```
import pack1.*;
public class FinalPack{
public static void main(String args[]){
First obj = new First();
obj.msg();
 }
}
```

Method 2:

```
import pack1.First;
public class FinalPack{
public static void main(String args[]){
First obj = new First();
obj.msg();
 }
}
```

Task 1:
Modify the above program by adding new package pack2 and class Second. Then access the method from the main class FinalPack .

```java
package mypackage;/

public class Foods {

    private String foodName;
    private int total;

    public void display()
    {
        System.out.println("Displaying Foods");
    }


    public void setFood(String fName,int n){

        this.foodName = fName;
        this.total = n;
        System.out.println("There are " +this.total +"number of " + this.foodName);
    }

}
```

Program 2:

```java
import mypackage.Foods;

public class Vegetables {



    public static void main(String args[])
    {
        Foods obj = new Foods();
        obj.display();
        obj.setFood("Cabbage",10);

    }
}
```

Task 2: Create a class Fruits and importing the package mypackage , access the package mypackage for finding the number of fruits and the season on which they are found.

3. Create a class Employee with a package named Pack and access the variables of employee as emp_id, name, age. Create another class Engineer and access the variables of the Employee class .

4. Create a class Marks from the package Student. Again, create a class PassMarks and access all the students who passed the exam (Marks>=40 and <100) from the package Marks.Take the marks from the user.