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Experiment Number : 9 **Date: 12-2-26**

Implementation of a Java Program to import packages using different methods

Aim:

Write a Java program to import packages using different methods for different use cases.

PRE LAB EXERCISE

QUESTIONS

1. **How to import a single class and multiple classes from a package in Java?**

   - **Import a single class:**
     import java.util.ArrayList;

   - **Import multiple classes (entire package):**
     import java.util.*;

2. **Which package is always imported by default in every Java class?**

   `java.lang`

   It is automatically imported and contains commonly used classes like String, System, Math, Integer, etc.

IN LAB EXERCISE

Objective

To understand and implement the Java packages using different methods and import them.

Problem

Define a package named ‘useFul’ with a class names ‘UseMe’ having following methods:

1) area()- To calculate the area of given shape.

2) salary()- To calculate the salary given basic Salary,da,hRA.

3) percentage()-To calculate the percentage given total marks and marks obtained.

4) Develop a program named ‘Package Use’ to import the above package ‘useFul’ and use the method area().

5) Develop a program named ‘manager’

Source Code

```
//Package Creation:
package useFull;
import java.util.*;
public class UseMe
{
        Scanner obj=new Scanner(System.in);
public static void area()
      {
          class method{
           void aos(int a)
           {
             System.out.print("\nArea of square with length "+a+" is "+(a*a));
           }
          void aor(int a,int b)
          {
            System.out.print("\nArea of reactangle with dimensions "+a+" & "+b+" is
"+(a*b));
           }
           void aoc(int r)
          {
            double a=3.14*r*r;
           }
          System.out.print("\nArea of circle with radius "+r+" is "+a);
        }
        void aot(int a,int b)
         {
          float ar=(a*b)/2;
          System.out.print("\nArea of triangle with dimensions "+a+" &"+b+" is "+ar);
         } }
```

```
        Scanner obj=new Scanner(System.in);
        method m=new method();
        System.out.print("\n1.Square\n2.Rectangle\n3.Circle\n4.Triangle\nSelect the shape\n");
        int ch=obj.nextInt();
        UseMe u=new UseMe();
        switch(ch)
                {
                case 1:System.out.print("\nEnter the length of side of square : ");
                        int s=obj.nextInt();m.aos(s);
                        break;
                case 2:System.out.print("\nEnter the dimensions of rectangle : ");
                        int l=obj.nextInt();
                        int b=obj.nextInt();
                        m.aor(l,b);
                        break;
                case 3:System.out.print("\nEnter the radius of circle : ");
                        int r=obj.nextInt();
                        m.aoc(r);
                        break;
                case 4:System.out.print("\nEnter the dimensions of triangle : ");
                        int ba=obj.nextInt();
                        int w=obj.nextInt();
                        m.aot(ba,w);
                        break; } }
public void salary()
   {
        int ba,da,hra;
        System.out.print("\nEnter the basic salary : ");
        ba=obj.nextInt();
        System.out.print("\nEnter the dearness allowance :");
```

```
        da=obj.nextInt();
        System.out.print("\nEnter the house rent allowance : ");
        hra=obj.nextInt();
        System.out.print("\nThe total Gross salary of employee is : "+(ba+da+hra));
    }
public void percentage()
    {
        int n,sum=0;
        float p;
        System.out.print("\nEnter the total number of subjects : ");
        n=obj.nextInt();
        int m[]=new int[n];
        System.out.print("\nEnter the marks of "+n+" subjects : ");
        for(int i=0;i<n;i++)
        {
            m[n]=obj.nextInt();
        }
        for(int i=0;i<n;i++)
        {
             sum=sum+m[i];
        }
        p=sum/n;
        {
                System.out.print("\nPercentahe of student : "+p);
        }
     }
}
//Package Implementation-1:
        import useFull.UseMe;
        class packageUse
```

```
{
        public static void main(String args[])
        {
        UseMe o=new UseMe();o.area();
        }
}
```

Output

```
1.Square
2.Rectangle
3.Circle
4.Triangle
Select the shape: 2
Enter length and breadth: 10 15
Area of rectangle = 150
```

//Package Implementation-2:

```
import useFull.UseMe;
class manager
{
   public static void main(String args[])
   {
    UseMe obj=new UseMe();obj.salary();
    }
}
```

Output

```
Enter basic salary: 100000
Enter DA: 5000
Enter HRA: 2000
Gross Salary = 107000
```

POST LAB EXERCISE

1. **Find the key differences between java.util and java.lang packages.**

Feature	java.lang	java.util
Import	Automatically imported	Must be imported manually
Purpose	Basic language support	Utility classes & data structures
Contains.	String, System, Math, Wrapper classes	ArrayList, HashMap, Scanner, Collections

2. **List some of the subpackages of java.util**

- java.util.concurrent
- java.util.function
- java.util.logging
- java.util.regex
- java.util.stream

ASSESSMENT

Description	Max Marks	Marks Awarded
Pre Lab Exercise	**5**	
In Lab Exercise	**10**	
Post Lab Exercise	**5**	
Viva	**10**	
Total	**30**	
Faculty Signature		