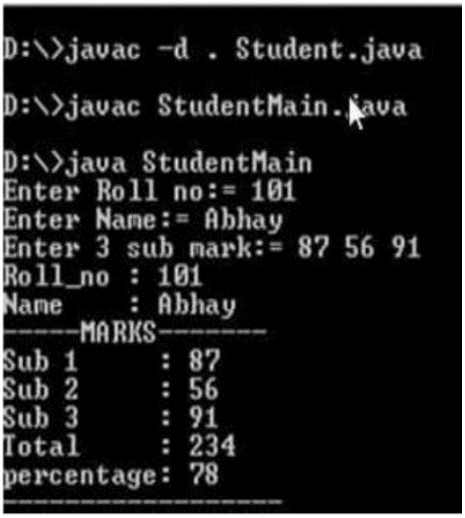
ASSIGNMENT 07

1) Create a package btech which has one class Student. Accept student details through parameterized constructor of Student class. Write a method display() to display the student details. Create another class Test containing the main() method which will use the package btech and calculate total marks and percentage of marks. One sample output is shown below.




```
package btech;

public class Student{
    public String name;
    public int roll_no;
    public int sub1, sub2, sub3;
    public Student(){

    }
    public Student(String n, int r, int s1, int s2, int s3){
        name = n;
        roll_no = r;
        sub1 = s1;
        sub2 = s2;
        sub3 = s3;
    }
    public void display(){
        System.out.println("Roll No "+roll_no);
        System.out.println("Name: "+name);
        System.out.println("------MARK------ ");
        System.out.println("Sub 1: "+sub1);
        System.out.println("Sub 2: "+sub2);
        System.out.println("Sub 3: "+sub3);
        System.out.println("Total: "+(sub1+sub2+sub3));
        System.out.println("percentage "+((sub1+sub3+sub3)*0.3));
    }
}
```

```java
import btech.Student;
public class Test {
    public static void main(String[] args) {
        Student ob = new Student("Ram", 12, 92, 94, 98);
        ob.display();
     }
}
```

OUTPUT:

```
Roll No 12
Name: Ram
------MARK------
Sub 1: 92
Sub 2: 94
Sub 3: 98
Total: 284
percentage 86.399
```

2) Create a sub-package called arithmetic under the package btech. The arithmetic package should contain a class MyMath having methods to deal with different arithmetic operations (addition, subtraction, multiplication, division and mod). Create a class Test containing the main method which will use the methods of sub-package arithmetic.

```java
package btech.arithmetic;

public class MyMath {
    public int add(int x, int y)
    {
        return x + y;
    }
    public int sub(int x, int y)
    {
        return x - y;
    }
    public int mul(int x, int y)
    {
        return x * y;
    }
    public double div(int x, int y)
    {
        return (double) x / y;
    }
    public int mod(int x, int y)
    {
        return x % y;
    }
}
```

```
import btech.arithmetic.*;
class Test
{
    public static void main(String as[])
    {
        MyMath m = new MyMath();
        System.out.println(m.add(8, 5));
        System.out.println(m.sub(8, 5));
        System.out.println(m.mul(8, 5));
        System.out.println(m.div(8, 5));
        System.out.println(m.mod(8, 5));
    }
}
```

OUTPUT:

13
3
40
1.6
3

3) Create a sub-package named shapes under package org. Create some classes in the package representing some common geometric shapes like Square, Triangle, Circle and so on. The classes should the area() and perimeter() methods in them. Compile the package. Use this package to find area and perimeter of different shapes as chosen by the user.

```
package Package.shapes;

public class Triangle {
    public int a, b, c;
    public Triangle(int s1, int s2, int s3){
        a = s1;
        b = s2;
        c = s3;
    }
    public void area(){
        double s = (a+b+c)/2;
        double area = Math.sqrt(s*(s-a)*(s-b)*(s-c));
        System.out.println("Area "+area);
    }
    public void perimeter(){
        int peri = a + b + c;
        System.out.println("Perimeter "+peri);
    }
}
```

```
package Package.shapes;

public class Circle {
    public int radius;
    public Circle(int r){
        radius = r;
```

```
    }
    public void area(){
        double area = 3.141*radius*radius;
        System.out.println("Area: "+area);
    }
    public void perimeter(){
        double peri = 2*3.141*radius;
        System.out.println("Perimeter: "+peri);
    }
}
```

```
package Package.shapes;

public class Square {
    public int side;
    public Square(int s){
        side = s;
    }
    public void area(){
        int area = side*side;
        System.out.println("Area: "+area);
    }
    public void perimeter(){
        int perimeter = 4*side;
        System.out.println("Perimeter "+perimeter);
    }
}
```

```
import Package.shapes.Triangle;
import Package.shapes.Circle;
import Package.shapes.Square;

class Test
{
    public static void main(String as[])
    {
       Triangle t = new Triangle(2, 6, 4);
       Circle c = new Circle(7);
       Square s = new Square(4);
       System.out.println("TRIANGLE");
       System.out.println("----------");
       t.area();
       t.perimeter();
       System.out.println("CIRCLE");
       System.out.println("----------");
       c.area();
       c.perimeter();
       System.out.println("SQUARE");
       System.out.println("----------");
       s.area();
       s.perimeter();
    }
}
```

OUTPUT:

```
TRIANGLE
----------
Area 0.0
Perimeter 12
CIRCLE
----------
Area: 153.90900000000002
Perimeter: 43.974000000000004
SQUARE
----------
Area: 16
Perimeter 16
```

4) Write a program to create a package named folder1 to take a number and create another package name folder2 in which you find the largest between two numbers.

```
package folder1;

import java.util.Scanner;

public class Demo {
    public int n1;
    public void getOne(){
        Scanner in = new Scanner(System.in);
        System.out.println("Enter the 1st number");
        n1 = in.nextInt();
    }
}


package folder2;

import folder1.Demo;
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        int no2;
        Scanner in = new Scanner(System.in);
        Demo ob = new Demo();
        ob.getOne();
        System.out.println("Enter the 2nd number");
        no2 = in.nextInt();
        if(ob.n1>no2){
            System.out.println(ob.n1+" is larger");
        }
        else{
            System.out.println(no2+" is larger");
        }
    }
}
```

OUTPUT:

Enter the 1st number
3
Enter the 2nd number
4
4 is larger

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