Assignment:15/6/2021

Question :Create classes student and sports .Create another class Result inherited from student and sports .Display the academic sports score of a student.

```
interface student
{
        void stresullt();


}
interface sports
{
        void spresult();
}
class result implements student,sports
{
        public void spresult()
       {
        String hundred="First";
        String twohundred="Second";
        String fourhundred="First";
        String longjump="Second";
        System.out.println("Sports Result----------");
       System.out.println("Hundred Meter:"+hundred);
        System.out.println("Two Hundred Meter:"+twohundred);
```

```
System.out.println("Four Hundred Meter:"+fourhundred);
System.out.println("long jump:"+longjump);
  }
  public void stresullt()
  {
  int malayalam=60;
  int hindhi=55;
  int maths=50;
  int english=65;
  int computer=50;
System.out.println("Marks");
System.out.println("malayalam:"+malayalam);
System.out.println("hindhi:"+hindhi);
System.out.println("Mathematics:"+maths);
System.out.println("English:"+english);
System.out.println("Computer:"+computer);
  }
  public static void main(String[] args)
  {
          result r = new result();
          r.stresullt();
          r.spresult();
  }
```

}

```
D:\java>javac result.java

D:\java>java result
Marks
malayalam:60
hindhi:55
Mathematics:50
English:65
Computer:50
Sports Result-------------
Hundred Meter:First
Two Hundred Meter:Second
Four Hundred Meter:First
long jump:Second
```

Question : Create an interface having prototypes of functions area() and perimeter().Create two classes Circle and Rectangle which implements the above interface .Create a menu driven program to find area and perimeter of objects.

```
import java.util.Scanner;

interface Shape

{

   void input();

   void area();

   void perimeter();

}

class Circle implements Shape

{
```

```
    int r = 0;
    double pi = 3.14, ar = 0,per=0;
    public void input()
    {       Scanner s = new Scanner(System.in);
             System.out.print("Enter radius of circle:");
            r= s.nextInt();
    }
    public void area()
    {
       ar = pi * r * r;
       System.out.println("Area of circle:"+ar);
    }
    public void  perimeter()
    {
            per = 2 * pi * r;
            System.out.println("Perimeter of circle:"+per);
    }

}
class Rectangle implements Shape
{
    int l = 0, b = 0;
    double ar,per;
```

```
    public void input()
    {    Scanner s = new Scanner(System.in);
          System.out.print("Enter length of rectangle:");
        l = s.nextInt();
         System.out.print("Enter breadth of rectangle:");
        b = s.nextInt();
    }
    public void area()
    {
        ar = l * b;
        System.out.println("Area of rectangle:"+ar);
    }
    public void perimeter()
    {
                per = 2 * (l + b);
                System.out.println("Perimeter of rectangle:"+per);
    }
}
public class shapes
{
    public static void main(String[] args)
    { int n;
         Scanner s = new Scanner(System.in);
```

```
Rectangle obj1 = new Rectangle();
 Circle obj2 = new Circle();


 System.out.println("1.Area of circle");
 System.out.println("2.Perimeter of circle");
 System.out.println("3.Area of rectangle");
 System.out.println("4.Perimeter of rectangle");
 System.out.println("Enter your option:");
   n= s.nextInt();
 switch(n) {
case 1:
  obj2.input();
    obj2.area();
break;
case 2:
  obj2.input();
    obj2.perimeter();
break;
  case 3:
  obj2.input();
    obj2.area();
break;
case 4:
```

```
            obj2.input();
              obj2.perimeter();
        break;
        default:
         System.out.println("Invalid option");
}


   }
}
```

Output:

```
D:\java>javac shapes.java

D:\java>java shapes
1.Area of circle
2.Perimeter of circle
3.Area of rectangle
4.Perimeter of rectangle
Enter your option:
3
Enter radius of circle:5
Area of circle:78.5
```

Question :Prepare a bill with the given format using calculate method from interfaceorder no.

```
interface bill
{
        int productdetails();
}
```

```
class product1 implements bill{
        int id = 2135,quantity= 5,unit=5,total=0;
        String name="M";

    public int productdetails()
    {
    total = quantity * unit;
        System.out.println("Product Id :"+id);
        System.out.println("Name :"+name);
        System.out.println("Quantity :"+quantity);
        System.out.println("Unit price :"+unit);
        System.out.println("Total :"+total);
        return(total);

    }
}
class product2 implements bill{
    int id = 3604,quantity= 1,unit=50,total=0;
        String name="N";

    public int productdetails()
    {
        total = quantity * unit;
```

```
            System.out.println("Product Id :"+id);
            System.out.println("Name :"+name);
            System.out.println("Quantity :"+quantity);
            System.out.println("Unit price :"+unit);
            System.out.println("Total :"+total);
            return(total);

        }
}
public class productbill
{
        public static void main(String[] args)
        {
            product1 p1 = new product1();
            product2 p2 = new product2();
            int t1= p1.productdetails();
            int t2= p2.productdetails();
            int t3=t1+t2;

        System.out.println(" Amount :"+t3);

        }
}
```

Output:

```
D:\java>javac productbill.java

D:\java>java productbill
Product Id :2135
Name :M
Quantity :5
Unit price :5
Total :25
Product Id :3604
Name :N
Quantity :1
Unit price :50
Total :50
 Amount :75

D:\java>
```