OBJECT ORIENTED PROGRAMING LAB

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Batch: S2 MCA

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Aim

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.

Procedure

```
import java.util.Scanner;

interface prop
{
   void getdata();
   void area();
   void perimeter();
}


class Circle implements prop
{
   double pi = 3.14;
   double r;
   Scanner sc = new Scanner(System.in);
   public void getdata()
   {
      System.out.println("Enter the radius of the circle:");
      r = sc.nextDouble();
   }
   public void perimeter()
   {
```

```
        System.out.println("Perimeter of the circle: "+(2*pi*r));
    }
    public void area()
    {
        System.out.println("Area of the circle: "+(pi*r*r));
    }
}

class Rectangle implements prop
{
    double l,b;
    Scanner sc = new Scanner(System.in);

    public void getdata()
    {
        System.out.println("Enter the length of the rectangle:");
        l = sc.nextDouble();
        System.out.println("Enter the breadth of the rectangle:");
        b = sc.nextDouble();
    }

    public void area()
    {
        System.out.println("Area of a rectangle: "+(l*b));
    }

    public void perimeter()
    {
        System.out.println("Perimeter of a rectangle: "+(2*(l+b)));
```

```
    }
}
public class CO3_Q6 {
    public static void main(String[] args){
        int ch;
        Scanner sc = new Scanner(System.in);
        Circle ob = new Circle();
        Rectangle obj = new Rectangle();
        do{
            System.out.println("\n1.Circle\n2.Rectangle\n3.exit");
            System.out.println("Enter your choice:");
            ch = sc.nextInt();
            switch(ch)
            {
                case 1 :ob.getdata();
                        ob.area();
                        ob.perimeter();
                        break;
                case 2 :obj.getdata();
                        obj.area();
                        obj.perimeter();
                        break;
                case 3 :System.out.println("Exited...");
                        System.exit(0);
            }
        }while(true);
    }
}
```

Output Screenshot

```
D:\JAVA PROGRAMS - 45\CO3>java CO3_Q6

1.Circle
2.Rectangle
3.exit
Enter your choice:
1
Enter the radius of the circle:
5
Area of the circle: 78.5
Perimeter of the circle: 31.400000000000002

1.Circle
2.Rectangle
3.exit
Enter your choice:
2
Enter the length of the rectangle:
4
Enter the breadth of the rectangle:
5
Area of a rectangle: 20.0
Perimeter of a rectangle: 18.0

1.Circle
2.Rectangle
3.exit
Enter your choice:
3
Exited...
```