

## LAB 6: ABSTRACT CLASS IN JAVA

Name: Shreyas Sawant

Div: D7A

Roll No.: 55

Q.1 Take a class called Figure consisting of abstract method area(). Inherit this figure class through various other classes like Circle, Rectangle and Triangle which will redefine the function called area() as per the required formula.

CODE:

```
AbdFigure - Notepad
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import java.util.*;
abstract class Figure
{
    double dim_1,dim_2,r;
    Figure(double a,double b)
    { dim_1=a;
      dim_2=b;
    }

    Figure(double c)
    { r=c; }

    abstract double area();
}
class Circle extends Figure
{
    Circle(double a)
    {super(a);
    }
    double area()
    {
        return r*r*3.14;
    }
}
class Rectangle extends Figure
{
    Rectangle(double a,double b)
    {super(a,b);
}
```

```
AbdFigure - Notepad
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    {super(a,b);
    }
    double area()
    {
        return dim_1*dim_2;
    }
}
class Triangle extends Figure
{
    Triangle(double a,double b)
    { super(a,b);
    }
    double area()
    {
        return dim_2*dim_1/2;
    }
}
class AbsFigure
{
    public static void main(String args[])
    {
        Scanner s=new Scanner(System.in);
        double l,br,b,h,r;

        System.out.println("Enter length and breath of rectangle: ");
        l=s.nextDouble();
        br=s.nextDouble();
        Rectangle ob1=new Rectangle(l,br);
    }
}
```

```
AbsFigure - Notepad
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}

}
class AbsFigure
{
    public static void main(String args[])
    {
        Scanner s=new Scanner(System.in);
        double l,br,b,h,r;

        System.out.println("Enter length and breath of rectangle: ");
        l=s.nextDouble();
        br=s.nextDouble();
        Rectangle ob1=new Rectangle(l,br);

        System.out.println("\nEnter height and base of triangle: ");
        h=s.nextDouble();
        b=s.nextDouble();
        Triangle ob2=new Triangle(h,b);

        System.out.println("\nEnter radius of circle: ");
        r=s.nextDouble();
        Circle ob3=new Circle(r);

        System.out.println("\nArea of Rectangle: "+ob1.area()+" sq units");
        System.out.println("\nArea of Triangle: "+ob2.area()+" sq units");
        System.out.println("\nArea of Circle: "+ob3.area()+" sq units");

    }
}
```

## OUTPUT:

```
C:\Windows\System32\cmd.exe
C:\Users\user\Desktop\SHREYAS\Java Programs\LAB 06>javac AbsFigure.java
C:\Users\user\Desktop\SHREYAS\Java Programs\LAB 06>java AbsFigure
Enter length and breath of rectangle:
10.2 12

Enter height and base of triangle:
20.1 4

Enter radius of circle:
4.2

Area of Rectangle: 122.39999999999999 sq units
Area of Triangle: 40.2 sq units
Area of Circle: 55.3896 sq units
C:\Users\user\Desktop\SHREYAS\Java Programs\LAB 06>
```