JAVA LAB EXPERIMENT NO: 11

NAME: KUNJ TRIVEDI

CLASS: SE9

BATCH: C

ROLL NO: 38

AIM: Program on abstract class and abstract methods.

PROBLEM STATEMENT: Define an abstract class Shape with area method. Write a program to calculate area of circle, rectangle and triangle by inheriting Shape class in Circle, Rectangle and Triangle class respectively.

PROGRAM:

```
import java.util.*;
class abc
{
   void main()
   {
      Circle c=new Circle();
      Rectangle r=new Rectangle();
      Triangle t=new Triangle();
      c.area();r.area();t.area();
   }
}
abstract class shape
{
   final float pi=3.14f;
   abstract public void area();
}
class Circle extends shape
{
   public void area()
   {
      Scanner sc=new Scanner(System.in);
```

```
        System.out.println("Enter radius: ");
        float r=sc.nextFloat();
        float a=pi*r*r;
        System.out.println("Area of Cirlce= "+a);
    }
}
class Rectangle extends shape
{
    public void area()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter lenght and width: ");
        float l=sc.nextFloat();
        float w=sc.nextFloat();
        float a=l*w;
        System.out.println("Area of Rectangle= "+a);
    }
}
class Triangle extends shape
{
    public void area()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter lenght and width: ");
        float l=sc.nextFloat();
        float w=sc.nextFloat();
        float a=l*w*0.5f;
        System.out.println("Area of Triangle= "+a);
    }
}
```

OUTPUT:

```
Enter radius:
5
Area of Cirlce= 78.5
Enter lenght and width:
10
12
Area of Rectangle= 120.0
Enter lenght and width:
12
6
Area of Triangle= 36.0
```