S.No: 24	Exp. Name: ***program to create a super class called Figure that it returns the area of a rectangle and triangle***	Date: 2022-02-22

ID: 204G1A0584

Aim:

Write a java program to create a super class called Figure that receives the dimensions of two dimensional objects. It also defines a method called area that computes the area of an object. The program derives two sub classes from Figure. The first is Rectangle and second is Triangle. Each of the sub classes override area() so that it returns the area of a rectangle and triangle respectively

Source Code:

AbstractAreas.java

```
import java.util.*;
abstract class Figure{
   double dim1;   double dim2;   double dim3;
   double dim4;
Figure (double a,double b) {
   dim1 = a;      dim2 = b;      dim3 = a;
   dim4 = b;   }
abstract void area(); }

class Rectangle extends Figure{
   Rectangle(double a,double b)  {
      super(a,b); }
   void area() {
    double Area = dim1*dim2;
    System.out.println("Rectangle:");
    System.out.println("Area is "+Area);  }

}
class Triangle extends Figure{   Triangle(double a,double b)   {
   super(a,b);    }
void area(){
   double Area = (dim3*dim4)/2;
   System.out.println("Triangle:");
   System.out.println("Area is "+Area);}

}
class AbstractAreas{
   public static void main(String args[]) {
      System.out.println("Enter lenght and breadth of Rectangle :");
      Scanner input = new Scanner(System.in);
      double dim1 = input.nextDouble();
      double dim2 = input.nextDouble();
      System.out.println("Enter height and side of Triangle :");
      Scanner input1 = new Scanner(System.in);
      double dim3 = input1.nextDouble();
      double dim4 = input1.nextDouble();
      Rectangle r = new Rectangle(dim1,dim2);
      Triangle t = new Triangle(dim3,dim4);
      Figure figuref;
      figuref =r;
      figuref.area();
      figuref = t;
      figuref.area();   }
```

2020-2024-CSE-B

Srinivasa Ramanujan Institute of Technology

```
}
```


Execution Results - All test cases have succeeded!

Test Case - 1	
User Output	
Enter lenght and breadth of Rectangle : 12	
14	14
Enter height and side of Triangle : 7	
5	5
Rectangle:	
Area is 168.0	
Triangle:	
Area is 17.5	

Test Case - 2	
User Output	
Enter lenght and breadth of Rectangle : 4	
8	8
Enter height and side of Triangle : 5	
3	3
Rectangle:	
Area is 32.0	
Triangle:	
Area is 7.5	