| S.No: 24 | Exp. Name: ***program to create a super class called Figure that it returns the area of a rectangle and triangle*** | Date:2023-12-03 |
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## 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

```java
import java.util.Scanner;
abstract class Figure{
    double dim1;
    double dim2;
    abstract void area();
}
class Rectangle extends Figure{
    public void area(){
        System.out.println("Rectangle:");
        System.out.println("Area is "+(dim1*dim2));
    }
}
class Triangle extends Figure{
    public void area(){
        System.out.println("Triangle:");
        System.out.println("Area is "+(0.5*dim1*dim2));
    }
}
class AbstractAreas{
    public static void main(String args[]){
        Rectangle r1 = new Rectangle();
        Triangle t1 = new Triangle();
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter lenght and breadth of Rectangle :");
        r1.dim1=sc.nextInt();
        r1.dim2=sc.nextInt();
        System.out.println("Enter height and side of Triangle :");
        t1.dim1=sc.nextInt();
        t1.dim2=sc.nextInt();
        r1.area();
        t1.area();
    }
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|----|
| User Output |
| Enter lenght and breadth of Rectangle : 12 |
| 14 |

| |
|---|
| Enter height and side of Triangle : 7 |
| 5 |
| Rectangle: |
| Area is 168.0 |
| Triangle: |
| Area is 17.5 |

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