

```
// Aim : Enter the value by user and calculate the area of triangle and rectangle
// Name : Avhad Gauri Adinath
package Shape;
```

```
public abstract class Shape
{
    private double b,h;
    public Shape()
    {
        b = h = 0;
    }
    public Shape(double b)
    {
        this.b = b;
        h =b;
    }
    public Shape(double b, double h)
    {
        this.b = b;
        this.h = h;
    }
    public abstract double area();
    public double getH()
    {
        return h;
    }
    public double getB()
    {
        return b;
    }
}
```

```
package Shape;
```

```
class Rectangle extends Shape
{
    double a;
    public Rectangle()
    {
    }

    public Rectangle (double length, double breadth)
    {
        super(length,breadth);
    }
    public double area()
    {
        a = (getB() * getH() );
        return a;
    }

}
```

```
package Shape;
```

```
public class Triangle extends Shape
{
    double a;
    public Triangle()
    {

    }
    public Triangle (double base, double height)
    {
        super(base,height);
    }
    public double area()
    {
        a = ( (getB() * getH() ) ) / 2;
        return a;
    }
}
```

```
package Shape;
```

```
import java.util.Scanner;
public class TestShape
{
    public static void main(String args[])

    {
        double a,b;
        Scanner sc=new Scanner(System.in);
        int x;

        Shape s;

        do
        {
            System.out.println("\t1.Triangle\n\t2.Rectangle \n\t3.Exit\n\tEnter
Your Choice:");
            x = sc.nextInt();
            switch(x)
            {
                case 1:

                    System.out.print("Enter base of triangle: ");
                    a = sc.nextDouble();

                    System.out.print("Enter height of triangle: ");
                    b = sc.nextDouble();

                    s = new Triangle(a,b);

                    System.out.println("Area of Triangle = : "+ s.area() );
                    break;

                case 2:

                    System.out.print("Enter length of Rectangle: ");
                    a = sc.nextDouble();
```

```

System.out.print("Enter height of Rectangle: ");
b = sc.nextDouble();

s = new Rectangle(a,b);

System.out.println("Area of Rectangle = : "+ s.area() );
break;case 3:

    System.out.println(" Program closed ");
System.exit(0);
default:

System.out.println(" Invalid choice... ");
}
}while(x != 3);

sc.close();
}

}

```

OUTPUT :>

package Shape;

```

import java.util.Scanner;
public class TestShape
{
    public static void main(String args[])

    {
        double a,b;
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Your Choice:");
            x = sc.nextInt();
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                case 1:

                    System.out.print("Enter base of triangle: ");
                    a = sc.nextDouble();

                    System.out.print("Enter height of triangle: ");
                    b = sc.nextDouble();

                    s = new Triangle(a,b);

                    System.out.println("Area of Triangle = : "+ s.area() );
                    break;

                case 2:

```

```

System.out.print("Enter length of Rectangle: ");
a = sc.nextDouble();

System.out.print("Enter height of Rectangle: ");
b = sc.nextDouble();

s = new Rectangle(a,b);

System.out.println("Area of Rectangle = : "+ s.area() );
break;case 3:

    System.out.println(" Program closed ");
System.exit(0);
default:

System.out.println(" Invalid choice... ");
}
}while(x != 3);

sc.close();
}

}

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Your Choice:");
            x = sc.nextInt();
            switch(x)
            {
                case 1:

                    System.out.print("Enter base of triangle: ");
                    a = sc.nextDouble();

                    System.out.print("Enter height of triangle: ");
                    b = sc.nextDouble();

                    s = new Triangle(a,b);

                    System.out.println("Area of Triangle = : "+ s.area() );
                    break;

                case 2:

```

```

System.out.print("Enter length of Rectangle: ");
a = sc.nextDouble();

System.out.print("Enter height of Rectangle: ");
b = sc.nextDouble();

s = new Rectangle(a,b);

System.out.println("Area of Rectangle = : "+ s.area() );
break;case 3:

    System.out.println(" Program closed ");
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            x = sc.nextInt();
            switch(x)
            {
                case 1:

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                    System.out.print("Enter height of triangle: ");
                    b = sc.nextDouble();

                    s = new Triangle(a,b);

                    System.out.println("Area of Triangle = : "+ s.area() );
                    break;

```

case 2:

```
System.out.print("Enter length of Rectangle: ");
a = sc.nextDouble();

System.out.print("Enter height of Rectangle: ");
b = sc.nextDouble();

s = new Rectangle(a,b);

System.out.println("Area of Rectangle = : "+ s.area() );
break;case 3:

    System.out.println(" Program closed ");
    System.exit(0);
default:

    System.out.println(" Invalid choice... ");
    }
}while(x != 3);

sc.close();
}
```

OUTPUT :>

```
1.Triangle
2.Rectangle
3.Exit
Enter Your Choice:
1
Enter base of triangle: 1.2
Enter height of triangle: 3.6
Area of Triangle = : 2.16
1.Triangle
2.Rectangle
3.Exit
Enter Your Choice:
2
Enter length of Rectangle: 6.8
Enter height of Rectangle: 9.9
Area of Rectangle = : 67.320000000000001
1.Triangle
2.Rectangle
3.Exit
Enter Your Choice:
3
Program closed
```