Input:

```
package polymorphism;
import java.util.*;
abstract class shape
{
   public double dimen1,dimen2;

   shape()
   {

   };
   shape(double a,double b)
   {
      dimen1=a;
      dimen2=b;
   }

   abstract double compute_area();
   void read()
   {
      Scanner sc=new Scanner(System.in);
      System.out.println("Enter First Dimension:");
      dimen1=sc.nextDouble();
      System.out.println("Enter Second Dimension:");
      dimen2=sc.nextDouble();
   }
}
```

```
class triangle extends shape
{
   double area;
   triangle()
   {

   }
   triangle(double base,double height)
   {
      super(base,height);

   }
   double compute_area()
   {
      area=(dimen1*dimen2)/2;
      return area;
   }
}

class rectangle extends shape
{
   double area;
   rectangle()
   {

   }
   rectangle(double length,double breadth)
   {
      super(length,breadth);
```

```
    }
    double compute_area()
    {
        area=(dimen1*dimen2);
        return area;
    }
}

public class Polymorphism
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        int x;
        do
        {
        System.out.print("\n\t MENU\n\t1 Triangle\n\t2 RECTANGLE\n\t3 EXIT\n\t Choice:");
                x=sc.nextInt();
                System.out.println();

                switch(x)
                {
                    case 1:
                        triangle t=new triangle();
                        t.read();
                        System.out.println("Area of triangle is: "+t.compute_area());
                        break;
                    case 2:
```

```
                rectangle r=new rectangle();
                r.read();
                System.out.println("Area of rectangle is: "+r.compute_area());
                break;
            case 3:

                System.out.println("Exit successfully ");
                break;

            default:
                System.out.println("Invalid input ");



        }
    }
    while(x!=3);
    sc.close();
  }
  }
```

Output:

```
MENU
        1 Triangle
        2 RECTANGLE
        3 EXIT
         Choice:1

Enter First Dimension: 3
Enter Second Dimension: 4
Area of triangle is: 6.0
```

MENU

1 Triangle

2 RECTANGLE

3 EXIT

Choice:2

Enter First Dimension: 5

Enter Second Dimension: 7

Area of rectangle is: 35.0

MENU

1 Triangle

2 RECTANGLE

3 EXIT

Choice:4

Invalid input

MENU

1 Triangle

2 RECTANGLE

3 EXIT

Choice:3

Exit successfully