import java.util.\*;

abstract class Shape{

double x,y;

Shape(double i,double j)

{

x=i;y=j;

}

abstract double area();

}

class rectangle extends Shape{

rectangle(double i,double j)

{

super(i,j);

}

double area()

{

return x\*y;

}

}

class triangle extends Shape{

triangle(double i,double j)

{

super(i,j);

}

double area()

{

return 0.5\*x\*y;

}

}

class circle extends Shape{

circle(double i)

{

super(i,i);

}

double area()

{

return 3.14\*x\*y;

}

}

public class Areaof{

public static void main(String args[])

{

Scanner ch=new Scanner(System.in);

Scanner dim=new Scanner(System.in);

System.out.println("Enter the shape you want to calculate area");

System.out.printf("Shapes are :\n 1.Rectangle \n 2.Triangle \n 3.Circle\n");

int choice=ch.nextInt();

switch(choice)

{

case 1: System.out.println("Enter the breadth");

double b=dim.nextDouble();

System.out.println("Enter the length");

double l=dim.nextDouble();

rectangle r=new rectangle(l,b);

System.out.println("The area of the rectangle is :"+r.area());

break;

case 2: System.out.println("Enter the base");

double ba=dim.nextDouble();

System.out.println("Enter the height");

double he=dim.nextDouble();

triangle t=new triangle(ba,he);

System.out.println("The area of the triangle is :"+t.area());

break;

case 3:System.out.println("Enter the radius");

double ra=dim.nextDouble();

circle c=new circle(ra);

System.out.println("The area of the circle is :"+c.area());

break;

}

}

}

