{ LAB PROGRAM 4 }

```
import java.util.Scanner;

abstract class Shape {
    int base, height;
    Shape(int a, int b){
        base = a;
        height = b;
    }
    Shape(int c) {
      base = c;
      height = c;
    }
    abstract void printArea();
}

class Rectangle extends Shape {
   Rectangle(int a, int b){
      super(a,b);
    }
    void printArea() {
       System.out.print("area of rectangle :" + (base * height));
    }
}

class Triangle extends Shape {
   Triangle(int a, int b) {
        super(a,b);
    }
    void printArea() {
       System.out.print("area of triangle :" + (base * height/2));
    }
}
class circle extends Shape {
   circle(int a) {
      super(a);
    }
    void printArea() {
      System.out.print("area of circle: " + (3.14 * base * base));
    }
}
class ShapeDemo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int b,h, choice;
```

```
while (
    System.out.print("\nEnter choice 1. Rectangle 2. Triangle 3. circle
                                        4. exit: ");
    choice = sc.nextInt();

    switch (choice) {
        case 1: System.out.print ("Enter base: ");
                b= sc.nextInt ();
                System.out.print ("Enter height:");
                h = sc.nextInt ();
                Rectangle r = new Rectangle (b,h);
                r.printArea();
                break;
        case 2: System.out.print ("Enter base: ");
                b = sc.nextInt ();
                System.out.print ("Enter height:");
                h = sc.nextInt ();
                Triangle t = new Triangle (b,h);
                t.printArea();
                break;
        case 3: System.out.print ("Enter radius:");
                b= sc.nextInt();
                circle ci = new circle(b);
                ci.printArea();
                break;
        case 4: System.exit(0);

    }
}
}
}
```