LAB - PROGRAM - 4

```
import java.util.Scanner;
abstract class Shape
{
    int a;
    int b;
    Shape (int a, int b)
    { this.a = a;
      this.b = b; }

    Shape (int a)
    { this.a = a;
    }
      Shape ()
    { this.a = 0;
      this.b = 0; }

      Void printArea ()
      {
      }
      }

class triangle extends Shape
{ triangle (int a, int b)
  { super (a, b); }

    void printArea ()
{ System.out.println ("the area of the triangle
                    is = " + (a*b)/2);
    }
    }
```

```
class rectangle extends shape
  { rectangle (int a, int b)
    { super (a,b); }

    void printArea ()
{ System.out.println ("the area of the
          rectangle is =" + (a*b));
    }
  }

  class circle extends shape
  {  circle (int a)
    { super (a); }

    void printArea ()
{ System.out.println ("the area of the circle
          is =" + (3.14 * a*a));
    }
  }

  class shapes {
public static void main (String args [])
{ Scanner scan = new Scanner (System.in);
    int ch a,b;
    while (true) {
System.out.println ("ENTER 1 FOR
                    TRIANGLE");
System.out.println ("ENTER 2 FOR RECTANGLE");
System.out.println ("ENTER 3 FOR CIRCLE");
```

```
System.out.println ("ENTER 4 FOR EXIT");

        ch = scan.nextInt ();
        switch (ch)
{ case 1 : System.out.println ("enter the base
                and height of triangle");
          a = scan.nextInt ();
          b = scan.nextInt ();
        triangle t = new triangle (a,b);
          t.printArea ();
            break;
case 2 : System.out.println ("enter the length and
            breadth of rectangle");
          a = scan.nextInt ();
          b = scan.nextInt ();
        rectangle r = new rectangle (a,b);
          r.printArea ();
            break;
case 3 : System.out.println ("enter the radius
            of the circle");
          a = scan.nextInt ();
        circle c = new circle (a);
            c.printArea ();
            break;
```

```
case 4 : scan.close();
         break;
default : System.out.println("invalid input");
    }
}
}
```