

Date :- 3-11-2020, Name :- Hritik Singh, USN :- 1BM19CS063.

OOP Lab Program Week 8 :-

Lab Exercise 4

Input for Lab Exercise 4 :-

```
abstract class Shape
{
    int a, b;
    abstract void printArea(int a, int b);
}

class Rectangle extends Shape
{
    int area of rectangle;
    void printArea(int l, int m)
    {
        a = l;
        b = m;
        area of rectangle = a * b;
        System.out.println("The area of Rectangle is: " + area of rectangle);
    }
}

class Triangle extends Shape
{
    int area of triangle;
    void printArea(int x, int y)
    {
        a = x;
        b = y;
        area of triangle = (int)(0.5 * a * b);
        System.out.println("The area of triangle is: " + area of triangle);
    }
}

class Circle extends Shape.
```

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```

{
    double    area of circle;
    void    printArea( int z, int d)
    {
        a = z;
        d = 0;
        area of circle = 3.14 * a * a;
        System.out.println("The area of circle is" + area of circle);
    }
}

class ShapeMain
{
    public static void main (String [] args)
    {
        Rectangle r1 = new Rectangle();
        Triangle t1 = new Triangle();
        Circle c1 = new Circle();
        Shape Ref of Shape:
        Ref of shape = r1;
        Ref of shape.printArea(15, 20);
        Ref of shape = t1;
        Ref of shape.printArea(30, 30);
        Ref of shape = c1;
        Ref of shape.printArea(10, 0);
    }
}

```

Output :-The area of Rectangle is : 300. unit²The area of Triangle is : 450 unit²The area of Circle is : 314. unit².

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```
1 abstract class Shape
2 {
3     int a,b;
4     abstract void printArea(int a,int b);
5 }
6 class Rectangle extends Shape
7 {
8     int areaofrectangle;
9     void printArea(int l, int m)
10    {
11        a=l;
12        b=m;
13        areaofrectangle=a*b;
14        System.out.println("The area of Rectangle is:"+areaofrectangle);
15    }
16 }
17 class Triangle extends Shape
18 {
19     int areaoftriangle;
20     void printArea(int x, int y)
21    {
22        a=x;
23        b=y;
24        areaoftriangle=(int) (0.5*a*b);
25        System.out.println("The area of Triangle is:"+areaoftriangle);
26    }
27 }
28
29 class Circle extends Shape
30 {
31     double areaofcircle;
32     void printArea(int z, int d)
33    {
34        a=z;
35        d=0;
36        areaofcircle=3.14*a*a;
37        System.out.println("The area of Circle is:"+areaofcircle);
38    }
39 }
40 class ShapeMain
41 {
42     public static void main(String[] args)
43     {
44         Rectangle r1=new Rectangle();
```

Command Prompt

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C:\Users\hriti\Documents>javac oojweek8.java

C:\Users\hriti\Documents>java ShapeMain

The area of Rectangle is:300
The area of Triangle is:450
The area of Circle is:314.0

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```
14      System.out.println("The area of Rectangle is:"+areaofrectangle);
15  }
16  }
17  class Triangle extends Shape
18  {
19      int areaoftriangle;
20      void printArea(int x, int y)
21      {
22          a=x;
23          b=y;
24          areaoftriangle=(int) (0.5*a*b);
25          System.out.println("The area of Triangle is:"+areaoftriangle);
26      }
27  }
28
29  class Circle extends Shape
30  {
31      double areaofcircle;
32      void printArea(int z, int d)
33      {
34          a=z;
35          d=d;
36          areaofcircle=3.14*a*a;
37          System.out.println("The area of Circle is:"+areaofcircle);
38      }
39  }
40  class ShapeMain
41  {
42      public static void main(String[] args)
43      {
44          Rectangle r1=new Rectangle();
45          Triangle t1=new Triangle();
46          Circle c1=new Circle();
47          Shape Refofshape;
48          Refofshape=r1;
49          Refofshape.printArea(15,20);
50          Refofshape=t1;
51          Refofshape.printArea(30,30);
52          Refofshape=c1;
53          Refofshape.printArea(10,0);
54      }
55  }
56  }
57  }
```

Command Prompt

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C:\Users\hriti>cd..

C:\Users>cd..

C:\>cd C:\Users\hriti\Documents

C:\Users\hriti\Documents>javac oojweek8.java

C:\Users\hriti\Documents>java ShapeMain

The area of Rectangle is:300
The area of Triangle is:450
The area of Circle is:314.0

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