6/11/2020

WRITE-UP: LAB PROGRAM-4 (1BM19CS158)

(1)

```
import java.util.*;
import java.lang.Math.*;

abstract class shape{
        public int a;
        public int b;
        abstract public void printArea();
        Scanner s = new Scanner(System.in);
}

Class rectangle extends shape{
    public void printArea() {
        S.O.p("Enter length and breadth of rectangle:");
        float a = s.next.Float();
        float b = s.nextFloat();
        float area = a*b;
        S.O.pln("Area=" + area + "sq.units");
}
}

Class triangle extends shape{
    public void printArea() {
    S.O.p("Enter three sides of triangle:");
    float a = s.nextFloat();
    float b = s.nextFloat();
    float c = s.nextFloat();
    float d = (a+b+c)/2;
    double area = Math.sqrt(d*(d-a)*(d-b)*(d-c));
    S.O.pln("Area =" + area + "sq.units");
    }
}
```

```
class circle extends shape{
    public void printArea(){
        S.O.p ("Enter radius of circle:");
        float a = s.nextFloat();
        float area = 22/7*a*a;
        S.O.println("Area"+area+"sq.units");
    }
}
class shapedemo{
    public static void main(String args[])
    {
    shape r = new rectangle();
    shape t = new triangle();
    shape c = new circle();
    for(int i=0; i<100; i++)
    {
    S.O.pln("\n1)Triangle\n2)Rectangle\n3)Circle\n");
    S.O.pln("Enter your choice:");
    Scanner s = new Scanner(System.in);
    int ch = s.nextInt();
    switch(ch){
        case 1: t.printArea();
                break;
        case 2: r.printArea();
                break;
        case 3: c.printArea();
                break;
                default;
                S.O.pln("Invalid choice");
    } } }
```

OUTPUT: javac shapedemo.java
java shapedemo

1) Triangle
2) Rectangle
3) Circle

Enter your choice:
1
Enter three sides of triangle: 5
7
3
Area = 6.4951905283829 sq.units

1) Triangle
2) Rectangle
3) Circle

Enter your choice:
3
Enter radius of circle: 6
Area = 108.0 sq.units

1) Triangle
2) Rectangle
3) Circle

Enter your choice:
2
Enter length and breadth of rectangle: 5
8
Area = 40.0 sq.units

1) Triangle
2) Rectangle
3) Circle

Enter your choice:
9
Invalid choice