Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea( ). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea( ) that prints the area of the given shape.

9/12/22

1. Develop a java program to create an abstract class named shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle of circle such that each one of the classes extends the class shape. Each one of the classes contain only the method printArea() that print the area of the given shape.

Program:

```
import java.util.*;
abstract class a {
        double x,y;
        a (double i, double j) {
                x=i; y=j;
        }
        abstract double area ();
}

class rect extends a {
        rect (double i, double j) {
                super(i,j);
        }
        double area () {
                return x*y;
        }
}

class tri extends a {
        tri (double i, double j) {
                super(i,j);
        }
        double area() {
                return 0.5 *x *y;
        }
}
```

```
class cir extends a {
        cir (double i) {
                super (i,i);
        }
        double area() {
                return 3.14*i*i;
        }
}
class area {
        psvm (string args[]) {
        Scanner sc=new Scanner (System.in);
        System.out.println("Enter the length and breadth of
                rect angle :");
        double  l=sc.nextInt();
        double  b=sc.nextInt();
        s.o.p("Enter height and base of triangle : ");
        double  h=sc.nextInt();
        double  ba=sc.nextInt();

        s.o.p("Enter the radius of circle : ");
        double  ra= sc.nextInt();

        rect  r=new  rect(l,b);
        tri  t=new  tri (h,ba);
        cir  c=new  cir (ra);

        s.o.p("Area of rectangle is" +r.area());
        s.o.p("Area of triangle is" +t.area());
        s.o.p("Area of circle is" +c.area());
        }
}
```

Output:

Enter the length and breadth of rectangle:
23
43
Enter the length height and base of triangle:
65
34

Enter the radius of circle:
65

Area of rectangle is 989.0
Area of triangle is 1105.0
Area of circle is 13266.5

Output

```
C:\Users\bmsce\Desktop\1BM21CS043>java area
Enter the length and breadth of rectangle:
20 43
Enter the height and base of triangle:
33 76
Enter the radius of circle:
44
Area of rectangle is860.0
Area of triangle is1254.0
Area of circle is6079.04
```