Title : Write a java program for calculating area of circle.

Aim : Calculate area of circle.

Objective : To learn use of static methods and constructors.

Theory :

Java program to calculate or to print area of a circle in a simple method. The following Java program to print the area of a circle has been written in different methods such as static method, using constructor, Interface, inheritance with sample outputs for each program.

In mathematics, the area of a circle can be calculated using the formula:

Different Methods :

1. Static Method

2 .Using Interface

3 .Using Inheritance

4 .Using Method

5. Using Constructor

Procedure :

1. Static Method :

```
import java.util.Scanner;

class AreaOfCircle {

   public static void main(String args[]) {
```

```
 Scanner s = new Scanner(System.in);
System.out.println("Enter the radius:");
            double r = s.nextDouble();
            double area = (22 * r * r) / 7;
            System.out.println("Area of Circle is: " + area);
        }
    }
```

2 .Using Interface :

```
import java.util.Scanner;
interface AreaCal {
   void circle(double r);
}
class AreaOfCircle implements AreaCal {
   double area;
   public void circle(double r) {
      area = (22 * r * r) / 7;
   }
   public static void main(String args[]) {
      AreaOfCircle x;
      Scanner s = new Scanner(System.in);
      System.out.println("Enter the radius:");
      double rad = s.nextDouble();
      x = new AreaOfCircle();
      x.circle(rad);
      System.out.println("Area of Circle is: " + x.area);
```

```
    }
}
```

3 .Using Inheritance :

```
import java.util.Scanner;
class AreaCalculation {
    double area;
    void circle(double r) {
        area = (22 * r * r) / 7;
    }
}
class AreaOfCircle extends AreaCalculation {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the radius:");
        double rad = s.nextDouble();
        AreaOfCircle a = new AreaOfCircle();
        a.circle(rad);
        System.out.println("Area of Circle is: " + a.area);
    }
}
```

4 .Using Method :

```
import java.util.Scanner;
class AreaOfCircle {
```

```
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the radius:");
        double rad = s.nextDouble();
        double a = area(rad);
        System.out.println("Area of Circle is: " + a);
    }
    static double area(double r) {
        return (22 * r * r) / 7;
    }
}
```

5. Using Constructor :

```
import java.util.Scanner;
class Area {
    double area;
    Area(double r) {
        area = (22 * r * r) / 7;
    }
}
class AreaOfCircle {
    public static void main(String args[]) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the radius:");
        double rad = s.nextDouble();
        Area a = new Area(rad);
```

```
        System.out.println("Area of Circle is: " + a.area);
    }
}
```