

# PROGRAM

```
import java.util.*;
```

```
import org.w3c.dom.css.Rect;
```

```
interface Shape {  
    public void Area();  
    public void Perimeter();  
}
```

```
class Circle implements Shape {  
    Double radius;
```

```
    Circle(Scanner read) {  
        System.out.print("\nEnter the  
Radius :");  
        radius = read.nextDouble();  
    }
```

```
    public void Area() {
```

```
        System.out.print("\nArea of the Circle  
is : " + (3.14 * radius * radius));  
    }
```

```
    public void Perimeter() {  
        System.out.print("\nPerimeter of the  
Circle is : " + (2 * 3.14 * radius));  
    }  
}
```

```
class Rectangle implements Shape {  
    Double length, breadth;
```

```
    Rectangle(Scanner read){  
        System.out.print("\nEnter the length  
of Rectangle :");  
        length = read.nextDouble();  
        System.out.print("\nEnter the breadth  
of Rectangle :");  
        breadth = read.nextDouble();  
    }
```

```
public void Area() {  
    System.out.println("\nArea of the  
Rectangle is : " + (length * breadth));  
}
```

```
public void Perimeter() {  
    System.out.println("\nPerimeter of the  
Rectangle is : " + (2 * (length + breadth)));  
}  
}
```

```
public class AreaUsingInterface {  
    public static void main(String[] args) {  
        int i = 1, op;  
        Scanner read = new  
Scanner(System.in);  
        Rectangle r = new Rectangle(read);  
        Circle c = new Circle(read);  
        while (i != 0) {
```

```
System.out.println("\n1. Area of the  
circle\n2. Perimeter of the circle");
```

```
System.out.println("3. Area of the  
rectangle\n4. Perimeter of the  
rectangle\n5. Exit");
```

```
System.out.print("\n Choose your  
option : ");
```

```
op = read.nextInt();
```

```
switch (op) {
```

```
case 1:
```

```
    c.Area();
```

```
    break;
```

```
case 2:
```

```
    c.Perimeter();
```

```
    break;
```

```
case 3:
```

```
    r.Area();
```

```
    break;
```

```
case 4:
```

```
    r.Perimeter();
```

```
        break;
    case 5:
        i = 0;
        System.out.print("\nExiting");
        break;
    default:
        System.out.println("\nPlease
enter a valid option");
    }
}
}
```

# OUTPUT

Enter the length of Rectangle :3

Enter the breadth of Rectangle :5

Enter the Radius :4

1. Area of the circle
2. Perimeter of the circle
3. Area of the rectangle
4. Perimeter of the rectangle
5. Exit

Choose your option : 1

Area of the Circle is : 50.24

1. Area of the circle
2. Perimeter of the circle
3. Area of the rectangle
4. Perimeter of the rectangle
5. Exit

Choose your option : 4

Perimeter of the Rectangle is : 16