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**Roll No: 48**

**Batch: B**

**Date: 17/05/2022**

**OBJECT ORIENTED PROGRAMMING LAB**

**Experiment No.: 1**

**Aim**

Area of different shapes using overloaded functions.

**Code**

import java.util.\*;

interface Shape

{

float pi = 3.14F;

float area();

float perimeter();

}

class Circle implements Shape

{

Scanner sc = new Scanner(System.in);

int r;

public float area()

{

System.out.print("Enter the radius : ");

r = sc.nextInt();

return (pi \* r \* r);

}

public float perimeter()

{

System.out.print("Enter the radius : ");

r = sc.nextInt();

return (2 \* pi \* r);

}

}

class Rectangle implements Shape

{

Scanner sc = new Scanner(System.in);

int l, b;

public float area()

{

System.out.print("Enter the Length : ");

l = sc.nextInt();

System.out.print("Enter the breadth : ");

b = sc.nextInt();

return (l \* b);

}

public float perimeter()

{

System.out.print("Enter the Length : ");

l = sc.nextInt();

System.out.print("Enter the breadth : ");

b =sc.nextInt();

return (2 \* (l + b));

}

}

class Interface

{

public static void main(String args[])

{

Scanner sc = new Scanner(System.in);

Circle c = new Circle();

Rectangle r = new Rectangle();

int ch;

while (true)

{

System.out.println("--------MENU--------");

System.out.println("\n1.Area of Circle");

System.out.println("2.Perimeter of Circle");

System.out.println("3.Area of Rectangle");

System.out.println("4.Perimter of Rectangle");

System.out.println("5.EXIT");

System.out.print("\n Enter choice :");

ch = sc.nextInt();

switch (ch)

{

case 1:

float ar = c.area();

System.out.println("Area :" + ar);

break;

case 2:

float pr = c.perimeter();

System.out.println(pr);

break;

case 3:

float a = r.area();

System.out.println("Area :" + a);

break;

case 4:

float pr1 = r.perimeter();

System.out.println(pr1);

break;

case 5:

System.out.println("Exiting the Program");

System.exit(0);

default:

System.out.println("invalid!");

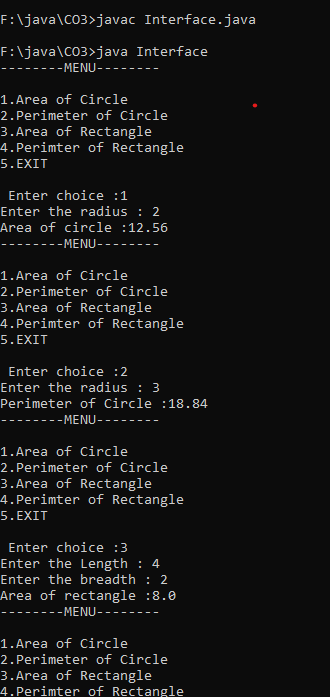
}

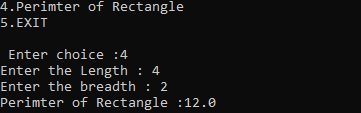
}

}

}

**Output**

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