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**Roll No: 41**

**Batch: MCAS2B**

**Date: 31/05/22**

**OBJECT ORIENTED PROGRAMMING LAB**

**Experiment No.: 1**

**Aim**

Create a Graphics package that has classes and interfaces for figures Rectangle, Triangle, Square and Circle. Test the package by finding the area of these figures.

**PROCEDURE**

**File 1: graphics**

**circle.java**

package graphics;

interface AreaInterface {

void Area();

}

public class circle implements AreaInterface{

double radius;

public circle(double radius){

this.radius= radius;

}

public void Area() {

double area= 3.14 \* this.radius \* this.radius;

System.out.println("The area of the given circle is : "+area);

}

}

**rectangle.java**

package graphics;

interface AreaInterface {

void Area();

}

public class rectangle implements AreaInterface{

double length,breadth;

public rectangle(double length,double breadth){

this.length=length;

this.breadth=breadth;

}

public void Area() {

double area= this.length\*this.breadth;

System.out.println("The area of the given circle is : "+area);

}

}

**square.java**

package graphics;

interface AreaInterface {

    void Area();

}

public class square implements AreaInterface{

    double side;

    public square(double side){

        this.side= side;

    }

    public void Area() {

        double area= this.side \* this.side;

        System.out.println("The area of the given square is : "+area);

    }

}

**triangle.java**

package graphics;

interface AreaInterface {

    void Area();

}

public class Triangle implements AreaInterface{

    double length, breadth;

    public Triangle(double length, double breadth){

        this.length= length;

        this.breadth= breadth;

    }

    public void Area() {

        double area= 0.5 \* this.length \* this.breadth;

        System.out.println("The area of the given triangle is : "+area);

    }

}

**File 2: result.java**

import java.util.\*;

import graphics.\*;

public class result {

public static void main(String[] args) {

Scanner sc= new Scanner(System.in);

int choice,isexit=0;

while(isexit==0){

double length, breadth, side, radius;

System.out.println("\n1. Area of Triangle.\n2. Area of Circle.\n3. Area of Square.\n4. Area of Rectangle.\n5. Exit");

System.out.print("Please enter the operation choice to perform - ");

choice= sc.nextInt();

System.out.println("\n");

switch(choice){

case 1:{

System.out.print("Enter the length of the triangle : ");

length= sc.nextDouble();

System.out.print("Enter the height of the triangle : ");

breadth= sc.nextDouble();

Triangle triangle = new Triangle(length, breadth);

triangle.Area();

break;

}

case 2:{

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

radius= sc.nextDouble();

circle cir= new circle(radius);

cir.Area();

break;

}

case 3:{

System.out.print("Enter the side length of the square : ");

side= sc.nextDouble();

square square= new square(side);

square.Area();

break;

}

case 4:{

System.out.print("Enter the length of the rectangle : ");

length= sc.nextDouble();

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

breadth= sc.nextDouble();

rectangle rec= new rectangle(length,breadth);

rec.Area();

break;

}

case 5:{

isexit=1;

break;

}

default:{

break;

}

}

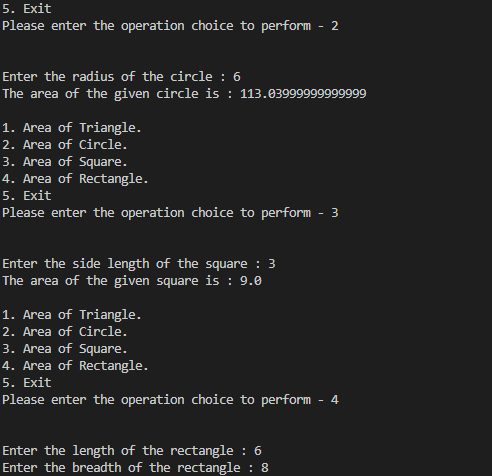
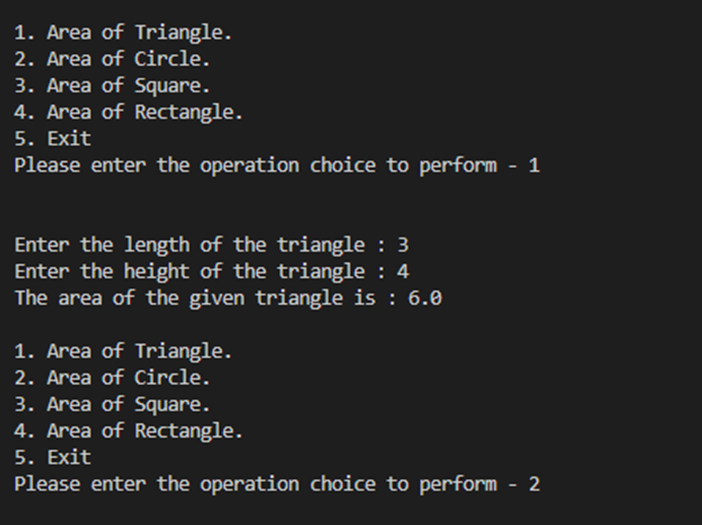
}

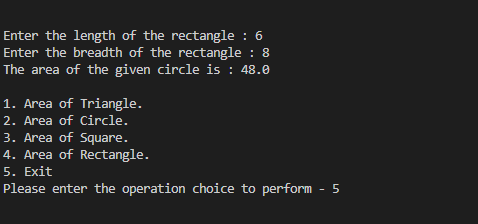
sc.close();

}

}

**Output screenshot**

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