**Name: Sreelakshmi Madhusoodhanan**

**Roll No: 40**

**Batch: RMCA**

**Date:31-05-2022**

**Object Oriented Programming LAB**

**Experiment No.: 21**

**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.

**Procedures**

**Source Code**

import package\_graphics.\*;

import java.util.\*;

public class main\_graphics {

public static void main(String []args){

package\_graphics testObj = new package\_graphics();

int l,h,r,a,c,d;

Scanner s=new Scanner(System.in);

System.out.println("Enter the length for rectangle");

l=s.nextInt();

System.out.println("Enter the breadth for rectangle");

h=s.nextInt();

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

r=s.nextInt();

System.out.println("Enter the side for Square");

a=s.nextInt();

System.out.println("Enter the breadth for triangle");

c=s.nextInt();

System.out.println("Enter the height for triangle");

d=s.nextInt();

System.out.println("area of rectangle:"+testObj.recArea(l,h));

System.out.println("area of circle :"+testObj.cirArea(r));

System.out.println("area of square:"+testObj.squArea(a));

System.out.println("area of triangle"+testObj.triArea(c,d));

}

}

**package\_graphics (new folder)**

package package\_graphics;

interface interface\_graphics{

public float recArea(int l, int h);

public float cirArea(int r);

public float squArea(int a);

public float triArea(int l, int h);

}

public class package\_graphics implements interface\_graphics {

public float recArea(int l, int h){

return l\*h;

}

public float cirArea(int r){

return r\*r\*(float)3.14;

}

public float squArea(int a){

return a\*a;

}

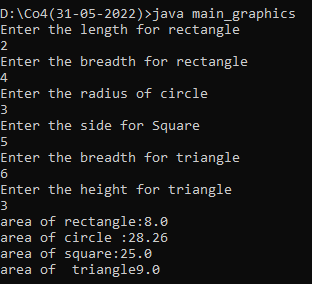
public float triArea(int l, int h){

return l\*h\*(float)(.5);

}

}

**Output**



**Experiment No: 22**

**Name: Sreelakshmi Madhusoodhanan**

**Roll No:39**

**Batch: RMCA B**

**Date:31/05/2022**

**Aim**

Write a user defined exception class to authenticate the user name and password.

**Procedure**

import java.util.Scanner;

import javax.swing.plaf.synth.SynthEditorPaneUI;;

public class Exc {

public static class InvalidUserException extends Exception {

public InvalidUserException() {

super("Invalid username / password provided!");

}

}

public static void main(String[] args) {

String name,pass;

Scanner sc = new Scanner(System.in);

String username,password;

System.out.println("enter the admin username:");

username=sc.next();

System.out.println("enter the admin password:");

password=sc.next();

System.out.println("enter the username:");

name=sc.next();

System.out.println("enter the password;");

pass=sc.next();

try {

if (username.equals(name) && password.equals(pass)) {

System.out.println("Authenticated successfully!");}

else {

throw new InvalidUserException();

} }

catch (InvalidUserException e) {

System.out.println(e);

}

}

}

**Output Screenshot**

