20MCA132 OBJECT ORIENTED PROGRAMMING LAB

ASSIGNMENT(CO-4)

SUBMITTED BY

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Course Outcome 4 (CO4):

1. 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.

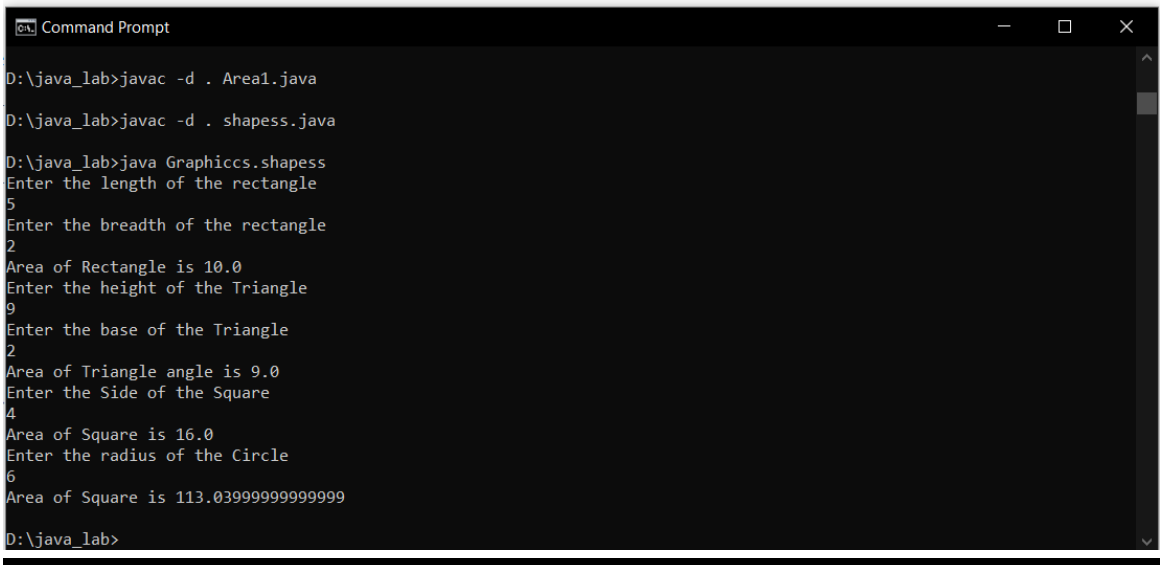
PROGRAM

```
//Area1.java

package Graphiccs;

interface Area1
{
        public void Rectangle();
        public void Triangle();
        public void Square();
        public void Circle();
        public void getRect();
        public void getTri();
        public void getSqr();
        public void getCrl();
}

//shapes.java

package Graphiccs;

import java.util.*;


public class shapess implements Area1

{

        double lr,lb,ra,th,tb,ta,saa,sa,cr,cc;

        public void getrect()

        {

                Scanner ab= new Scanner(System.in);

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

                lr=ab.nextInt();

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

                lb=ab.nextInt();
```

```
}
public void rectangle()
{
        ra=lr*lb;
        System.out.println("Area of Rectangle is "+ra);
}
public void getTri()
{
        Scanner cb= new Scanner(System.in);
        System.out.println("Enter the height of the Triangle");
        th=cb.nextInt();
        System.out.println("Enter the base of the Triangle");
        tb=cb.nextInt();
}
public void Triangle()
{
        ta=0.5*th*tb;
        System.out.println("Area of Triangle angle is "+ta);
}
public void getSqr()
{
        Scanner sq= new Scanner(System.in);
        System.out.println("Enter the Side of the Square");
        sa=sq.nextInt();
}
public void Square()
{
        saa=sa*sa;
        System.out.println("Area of Square is "+saa);
}
```

```
	public void getCrl()
	{
		Scanner sc= new Scanner(System.in);
		System.out.println("Enter the radius of the Circle");
		cc=sc.nextInt();
	}
	public void Circle()
	{
		cr=3.14*cc*cc;
		System.out.println("Area of Square is "+cr);
	}
	public static void main(String[] args)
	{
		shapess o= new shapess();
		o.getrect();
		o.rectangle();
		o.getTri();
		o.Triangle();
		o.getSqr();
		o.Square();
		o.getCrl();
		o.Circle();
	}
}
```

OUTPUT



2. Create an Arithmetic package that has classes and interfaces for the 4 basic arithmetic operations. Test the package by implementing all operations on two given numbers

PROGRAM

```
//operations.java
package Aarithmetic;


interface operations
{
        public void input();
        public void add();
        public void substract();
        public void multiply();
        public void division();

}
```

```
//basic.java
package Aarithmetic;
import java.util.*;


public class basic implements operations
{
	double a,b,ad,dif,mult,div;
	public void input()
	{
		Scanner ab=new Scanner(System.in);
		System.out.println("Enter two numbers");
		a=ab.nextInt();
		b=ab.nextInt();
	}
	public void add()
	{
		ad=a+b;
		System.out.println("Sum is "+ad);
	}
	public void substract()
	{
		dif=a-b;
		System.out.println("Difference is "+dif);
	}
	public void multiply()
	{
		mult=a*b;
		System.out.println("Product is "+mult);
```

```
    }
    public void division()
    {
        div=a/b;
        System.out.println("Quotient is "+div);
    }
    public static void main(String[] args)
    {
        basic o=new basic();
        o.input();
        o.add();
        o.substract();
        o.multiply();
        o.division();
    }
}
```

OUTPUT