OOPS TASKS

1. **package** shapes;

```
class Square
{
	public void display()
	{
		System.out.println("This is square");
	}
}
class Triangle
{
	public void display()
	{
		System.out.println("This is triangle");
	}
}
class Circle
{
	public void display()
	{
		System.out.println("This is circle");
	}
}
public class TestShapes {

	public static void main(String[] args) {
		Square sq = new Square();
```

```
        Triangle tr = new Triangle();
        Circle cr = new Circle();
        sq.display();
        tr.display();
        cr.display();

    }

}
```

Output

This is square

This is triangle

This is circle

2.
```
package shapes;

class Shape
{
    public double area(double side)
    {
        return side*side;
    }
    public double area(double length,double width)
    {
        return length*width;
    }
    public double perimeter(double side)
    {
```

```
            return 4*side;
        }
        public double perimeter(double length,double width)
        {
            return 2*(length+width);
        }
}

public class AreaPerimeter {

        public static void main(String[] args) {
            Shape sh = new Shape();
            System.out.println("Area of square is "+ sh.area(2));
            System.out.println("Area of rectangle is "+ sh.area(2,3));
            System.out.println("Perimeter of square is "+ sh.perimeter(2));
            System.out.println("Perimeter of rectangle is "+ sh.perimeter(2,3));

        }

}
```

Output

Area of square is 4.0

Area of rectangle is 6.0

Perimeter of square is 8.0

Perimeter of rectangle is 10.0

3.

```
package com.training;

public class Calculator {
```

```
public int add(int a,int b)
{
        return a+b;
}
public double add(double a,double b)
{
        return a+b;
}
public double add(int a,double b)
{
        return a+b;
}
public double add(double a,int b)
{
        return a+b;
}
public int sub(int a,int b)
{
        return a-b;
}
public double sub(double a,double b)
{
        return a-b;
}
public double sub(int a,double b)
{
        return a-b;
```

```
}
public double sub(double a,int b)
{
        return a-b;
}public int mul(int a,int b)
{
        return a*b;
}
public double mul(double a,double b)
{
        return a*b;
}
public double mul(int a,double b)
{
        return a*b;
}
public double mul(double a,int b)
{
        return a*b;
}public int div(int a,int b)
{
        return a/b;
}
public double div(double a,double b)
{
        return a/b;
}
public double div(int a,double b)
```

```
{
        return a/b;
}
public double div(double a,int b)
{
        return a/b;
}

public static void main(String[] args) {

        Calculator calc = new Calculator();
        System.out.println("Addition:"+calc.add(1, 2));
        System.out.println("Addition:"+calc.add(3.5, 2.5));
        System.out.println("Addition:"+calc.add(1, 2.5));
        System.out.println("Addition:"+calc.add(1.5, 2));
        System.out.println("Subtraction:"+calc.sub(1, 2));
        System.out.println("Subtraction:"+calc.sub(3.5, 2.5));
        System.out.println("Subtraction:"+calc.sub(1, 2.5));
        System.out.println("Subtraction:"+calc.sub(1.5, 2));
        System.out.println("Multiplication:"+calc.mul(1, 2));
        System.out.println("Multiplication:"+calc.mul(3.5, 2.5));
        System.out.println("Multiplication:"+calc.mul(1, 2.5));
        System.out.println("Multiplication:"+calc.mul(1.5, 2));
        System.out.println("Division:"+calc.div(1, 2));
        System.out.println("Division:"+calc.div(3.5, 2.5));
        System.out.println("Division:"+calc.div(1, 2.5));
        System.out.println("Division:"+calc.div(1.5, 2));
```

```
	}

}
```

Output

```
Addition:3
Addition:6.0
Addition:3.5
Addition:3.5
Subtraction:-1
Subtraction:1.0
Subtraction:-1.5
Subtraction:-0.5
Multiplication:2
Multiplication:8.75
Multiplication:2.5
Multiplication:3.0
Division:0
Division:1.4
Division:0.4
Division:0.75
```

4.
```
package com.training;

class Vehicle
{
	public void display()
	{
		System.out.println("This is a vehicle");
```

```
        }
}
class Truck extends Vehicle
{
        public void loadCapacity()
        {
                System.out.println("Trucks can carry heavy loads");
        }
}
class Bus extends Vehicle
{
        public void seatCapacity()
        {
                System.out.println("Bus has a larger seating capacity");
        }
}
class Car extends Vehicle
{
        public void type()
        {
                System.out.println("This car is sedan type");
        }
}

public class Road {

        public static void main(String[] args) {
                Truck tr = new Truck();
```

```
        Bus bs = new Bus();
        Car cr = new Car();
        tr.display();
        tr.loadCapacity();
        bs.display();
        bs.seatCapacity();
        cr.display();
        cr.type();
    }

}
```

Output

```
This is a vehicle
Trucks can carry heavy loads
This is a vehicle
Bus has a larger seating capacity
This is a vehicle
This car is sedan type
```