PROGRAM 5

AIM : Find Product with Lowest Price

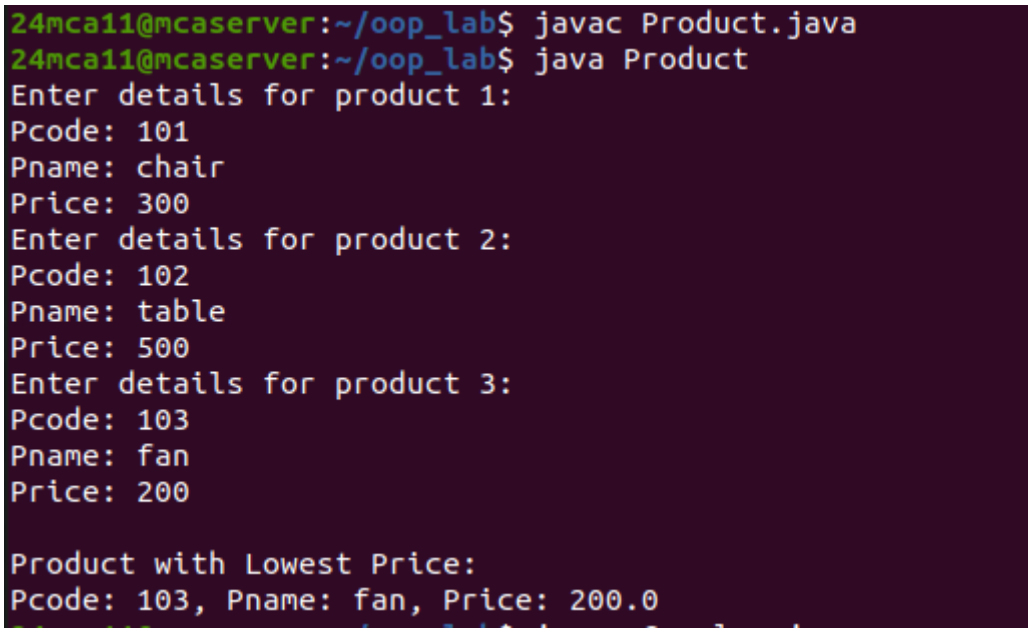
DATE : 17/02/2025

SOURCE CODE :

```
import java.util.Scanner;

class Product {
    String pcode, pname;
    double price;

    Product(String pcode, String pname, double price) {
        this.pcode = pcode;
        this.pname = pname;
        this.price = price;
    }

    static Product findLowest(Product[] products) {
        Product lowest = products[0];
        for (Product p : products) {
            if (p.price < lowest.price) {
                lowest = p;
            }
        }
        return lowest;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        Product[] products = new Product[3];

        for (int i = 0; i < 3; i++) {
            System.out.println("Enter details for product " + (i + 1) + ":");
            System.out.print("Pcode: ");
            String pcode = sc.next();
            System.out.print("Pname: ");
            String pname = sc.next();
            System.out.print("Price: ");
            double price = sc.nextDouble();
            products[i] = new Product(pcode, pname, price);
        }
```

```
        Product lowest = findLowest(products);
        System.out.println("\nProduct with Lowest Price:");
        System.out.println("Pcode: " + lowest.pcode + ", Pname: " + lowest.pname + ",
Price: " + lowest.price);

    }
}
```

OUTPUT :



PROGRAM 6

AIM : Complex Number Operations

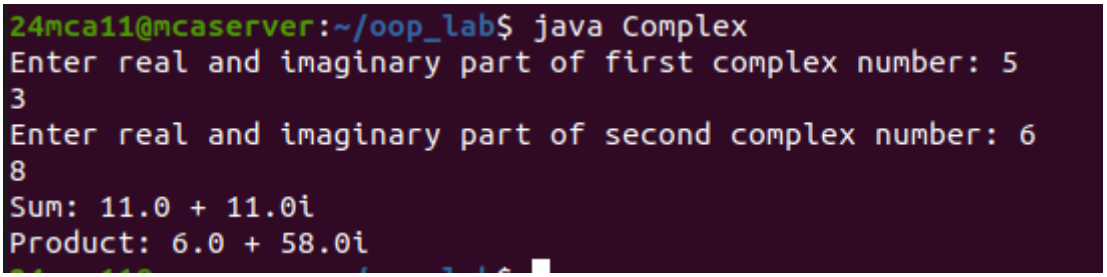
DATE : 17/02/2025

SOURCE CODE :

```
import java.util.Scanner;

class Complex {
    double real, imag;

    Complex(double real, double imag) {
        this.real = real;
        this.imag = imag;
    }

    Complex add(Complex c) {
        return new Complex(this.real + c.real, this.imag + c.imag);
    }

    Complex multiply(Complex c) {
        double realPart = (this.real * c.real) - (this.imag * c.imag);
        double imagPart = (this.real * c.imag) + (this.imag * c.real);
        return new Complex(realPart, imagPart);
    }

    public String toString() {
        return real + " + " + imag + "i";
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter real and imaginary part of first complex number: ");
        Complex c1 = new Complex(sc.nextDouble(), sc.nextDouble());

        System.out.print("Enter real and imaginary part of second complex number: ");
        Complex c2 = new Complex(sc.nextDouble(), sc.nextDouble());

        Complex sum = c1.add(c2);
```

```
        Complex product = c1.multiply(c2);

        System.out.println("Sum: " + sum);
        System.out.println("Product: " + product);

    }
}
```

OUTPUT :



PROGRAM 7

AIM : Matrix Addition

DATE : 17/02/2025

SOURCE CODE :

```
import java.util.Scanner;

class MatrixAddition {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter number of rows and columns: ");
        int rows = sc.nextInt();
        int cols = sc.nextInt();

        int[][] matrix1 = new int[rows][cols];
        int[][] matrix2 = new int[rows][cols];
        int[][] sumMatrix = new int[rows][cols];


        System.out.println("Enter elements of first matrix:");
        for (int i = 0; i < rows; i++)
            for (int j = 0; j < cols; j++)
                matrix1[i][j] = sc.nextInt();


        System.out.println("Enter elements of second matrix:");
        for (int i = 0; i < rows; i++)
            for (int j = 0; j < cols; j++)
                matrix2[i][j] = sc.nextInt();


        for (int i = 0; i < rows; i++)
            for (int j = 0; j < cols; j++)
                sumMatrix[i][j] = matrix1[i][j] + matrix2[i][j];


        System.out.println("Sum of matrices:");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++)
                System.out.print(sumMatrix[i][j] + " ");
```

```
            System.out.println();
        }
    }
}
```

OUTPUT :