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Lab3/Exercise1 - displayMenu
Exercise1
/home/weston/.jdk/openjdk-17.0.2/bin/javac
Addition: +
Subtraction: -
Multiplication: *
Division: /
Modulo: %
PlusEquals: +=
MinusEquals: -=
TimesEquals: *=
DivEquals: /=
PostInc: i++
PostDec: i--
PreInc: ++i
PreDec: --i
Quit: q
Enter operator: +
Enter First Number: 1
Enter Second Number: 2
Result of 1 + 2 = 3.0
Addition: +
Subtraction: -
Multiplication: *
Division: /
Modulo: %
PlusEquals: +=
MinusEquals: -=
TimesEquals: *=
DivEquals: /=
PostInc: i++
PostDec: i--
PreInc: ++i
PreDec: --i
Quit: q
Enter operator: -
Enter First Number: 1
Enter Second Number: 2
Result of 1 - 2 = -1.0

package Lab3;

import java.util.Arrays;
import java.util.List;
import java.util.Scanner;

public class Exercise1 {

    private static final List<String> SEPARATE_CASES = Arrays.asList(
        "+", "-", "*", "/", "%", "++", "--", "i++", "i--", "++i", "--i"
    );

    private static int first, second;
    private static double output = 0;
    private static String uInput;

    public static void addition() { output = first + second; }
    public static void subtraction() { output = first - second; }
    public static void multiplication() { output = first * second; }
    public static void division() { ... }
    public static void modulo() { ... }
    public static void plusEquals() { output += first; }
    public static void minusEquals() { output -= first; }
    public static void timesEquals() { output *= first; }
    public static void divEquals() { ... }
    public static void postInc() { output++; }
    public static void postDec() { output--; }

    public static void preInc() { ++output; }
    public static void preDec() { --output; }

    public static void validate() {
        if (second == 0) {
            second = first;
            first = 0;
        }
    }

    public static void displayMenu() {
        System.out.println("
        Addition: +
        Subtraction: -
        Multiplication: *
        Division: /
        Modulo: %
        PlusEquals: +=
        MinusEquals: -=
        TimesEquals: *=
        DivEquals: /=
        PostInc: i++
        PostDec: i--
        PreInc: ++i
        PreDec: --i
        Quit: q");
    }

    public static boolean getInput() {
        Scanner s = new Scanner(System.in);
        System.out.print("Enter operator: ");
        uInput = s.nextLine();

        System.out.print("Enter First Number: ");
        first = s.nextInt();
        System.out.print("Enter Second Number: ");

        System.out.print("Enter Second Number: ");
        second = s.nextInt();

        return validate();
    }

    public static boolean validate() {
        switch (uInput) {
            case "+" -> addition();
            case "-" -> subtraction();
            case "*" -> multiplication();
            case "/" -> division();
            case "%" -> modulo();
            case "++" -> plusEquals();
            case "--" -> minusEquals();
            case "*" -> timesEquals();
            case "/" -> divEquals();
            case "i++" -> postInc();
            case "i--" -> postDec();
            case "++i" -> preInc();
            case "--i" -> preDec();
            case "q" -> System.exit(0);
            default -> {
                System.out.println("Incorrect input.");
                return false;
            }
        }

        return true;
    }

    public static void print() {
        if (SEPARATE_CASES.contains(uInput)) {
            System.out.println("Result of " + uInput +
                " " + first + " = " + output);
            return;
        }

        System.out.println("Result of " + first + " "
            + uInput + " " + second + " = " + output);
    }

    public static void main(String[] args) {
        while (true) {
            displayMenu();

            if (!getInput())
                continue;

            print();
        }
    }
}
```