Assignment 2: Calculator Application with Scanner Class

CalculatorApp.java U

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```java
import java.util.Scanner;

public class CalculatorApp {
    Run | Debug
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.println("Welcome to the Calculator App!");
        System.out.println("------------------------------");

        char operator;
        double number1, number2, result;

        System.out.print("Enter first number: ");
        number1 = input.nextDouble();

        System.out.print("Enter an operator (+, -, *, /): ");
        operator = input.next().charAt(0);

        System.out.print("Enter second number: ");
        number2 = input.nextDouble();

        switch (operator) {
            case '+':
                result = number1 + number2;
                System.out.println("Result: " + number1 + " + " + number2 + " = " + result);
                break;
            case '-':
                result = number1 - number2;
                System.out.println("Result: " + number1 + " - " + number2 + " = " + result);
                break;
            case '*':
                result = number1 * number2;
                System.out.println("Result: " + number1 + " * " + number2 + " = " + result);
                break;
            case '/':
                if (number2 != 0) {
                    result = number1 / number2;
                    System.out.println("Result: " + number1 + " / " + number2 + " = " + result);
                } else {
                    System.out.println("Error: Division by zero is not allowed.");
                }
                break;
            default:
                System.out.println("Error: Invalid operator.");
                break;
        }

        System.out.println("------------------------------");
        System.out.println("Thank you for using the Calculator App!");
        input.close();
    }
}
```

Explanation:

- ★ The program now starts with a welcoming message.
- ★ Designed a clean interface that prompts users to enter the first number, the desired operator (+, -, *, or /), and the second number.
- ★ Error handling in the division operation, the program now checks for division by zero. If the user attempts to divide by zero, the program displays a clear error message.
- ★ The calculated result is displayed in a clear format.
- ★ The program ends with a thank you message.

Output:

```
Welcome to the Calculator App!
------------------------------
Enter first number: 10
Enter an operator (+, -, *, /): +
Enter second number: 10
Result: 10.0 + 10.0 = 20.0
------------------------------
Thank you for using the Calculator App!
```

Assignment 2: Calculator Application with Command line Arguments:

CalculatorWithCommandLine.java U

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```java


public class CalculatorWithCommandLine {

    Run | Debug
    public static void main(String[] args) {

        if(args.length!=3) {
            System.out.println("Using java CalculatorWithMethods <value1> <value2> <operation>");
        }

        double value1 =Double.parseDouble(args[0]);
        double value2 =Double.parseDouble(args[1]);
        String operation = args[2];
        switch(operation) {
        case "add":;
            System.out.println("Result of addition: "+ (value1 +value2));
            break;
        case "sub":
            System.out.println("Result of Subration: " + (value1 - value2));
            break;
        case "mul":
            System.out.println("Result of Multiplication: " + (value1 * value2));
            break;
        case "div":
            if(value2 == 0) {
                System.out.println("Invalid Input");
            }else {
            System.out.println("Result of Division: " + (value1 / value2));
            }
            break;
        default:
            System.out.println("Given value is Invalid");
        }

    }

}
```