**Delegate for Mathematical Operations**

**Problem Statement**: Delegate for Mathematical Operations

**Objective**: Develop a console application that performs different arithmetic operations (addition, subtraction, multiplication) on two numbers based on user input, using a delegate to dynamically select the operation method.

**Description**:

The application should allow users to choose an arithmetic operation (add, subtract, or multiply) and input two numbers. A delegate will be used to reference the selected operation method, enabling dynamic invocation of the appropriate method at runtime. The program should:

- Prompt the user to select an arithmetic operation (add, subtract, or multiply).

- Accept two integer inputs from the user.

- Use a delegate to call the appropriate arithmetic method based on the user's choice.

- Display the result of the operation.

**Requirements**:

1. Define a delegate type that matches the signature of methods that take two integers and return an integer.

2. Implement at least three arithmetic methods (addition, subtraction, multiplication) that match the delegate's signature.

3. Allow the user to input their choice of operation (e.g., "add", "subtract", or "multiply").

4. Assign the appropriate method to the delegate based on the user's input.

5. Invoke the delegate to perform the operation on the two input numbers and display the result.

6. Handle invalid operation inputs by defaulting to a specific operation (e.g., addition).

7. Ensure robust input validation for the numbers (e.g., handle non-integer inputs gracefully).

**Expected Input:**

- User input for operation type: "add", "subtract", or "multiply" (case-insensitive).

- Two integer numbers (e.g., 5 and 3).

**Expected Output**:

- For "add" with inputs 5 and 3: `Result: 8`

- For "subtract" with inputs 5 and 3: `Result: 2`

- For "multiply" with inputs 5 and 3: `Result: 15`

- For invalid operation input: `Invalid operation. Defaulting to Add.` followed by `Result: 8` (assuming addition as default).

**Constraints**:

- The application must be console-based and simple to understand.

- The delegate must be used to invoke the arithmetic operation.

- Input validation for numbers is required to prevent crashes (e.g., handle non-integer inputs).

- The program should handle invalid operation choices by defaulting to a predefined operation.

**Learning Goals:**

- Understand how delegates in C# can be used to encapsulate methods with the same signature.

- Learn to use delegates for dynamic method invocation based on user input.

- Gain experience with console input/output, conditional logic, and basic error handling in C#.

invoked based on user input, with proper handling of inputs and defaults.