

# Assignment – Visual Programming using C#

**Topics Covered:** Control Structures (Conditionals & Loops), Arrays

## Instructions:

- Write clean, well-commented code.
- Each exercise must be implemented as a separate program (different files or methods).
- Add meaningful input/output messages for users.

## Exercises

### 1. Even or Odd Checker

Write a program that asks the user to enter a number and checks whether it is **even or odd** using an `if-else` statement.

### 2. Simple Calculator

Create a console-based calculator using `switch-case` that performs **addition, subtraction, multiplication, and division** based on user input.

### 3. Grade Evaluator

Take marks (0–100) from the user and print the **grade**:

- A ( $\geq 85$ )
- B (70–84)
- C (55–69)
- D (40–54)
- F ( $< 40$ )

### 4. Sum of Natural Numbers (Loop)

Ask the user for a number `n` and calculate the **sum of numbers from 1 to n** using a `for` loop.

## 5. Multiplication Table

Write a program that prints the **multiplication table of any number** entered by the user (up to 10).

## 6. Factorial Calculator

Ask the user for a number and calculate its **factorial** using a `while` loop.

## 7. Reverse a Number

Take an integer input and **reverse the digits** (e.g.,  $123 \rightarrow 321$ ) using loops.

## 8. Array - Find Maximum and Minimum

Create an array of 10 integers. Fill it with values entered by the user and find the **maximum and minimum elements**.

## 9. Array - Count Even and Odd Numbers

Take 10 numbers in an array and count how many are **even** and how many are **odd**.

## 10. Array - Search Element

Create an array of integers. Ask the user to enter a number and check whether it **exists in the array** (linear search).