Application Development with .NET (32998, 31927)

Tutorial -2 Questions

Please download the sample code from Canvas and follow the instructions

Program 1:

Write a C# Program to read 10 numbers as user input and find the following:

a. Sum of the numbers,
b. Average of the numbers,
c. Largest number, and
d. Smallest number

Without using arrays!

Example:

Enter 10 numbers: 1 2 3 4 5 6 7 8 9 10

Sum = 55

Average = 5.5

Largest number = 10

Smallest number = 1

Hint: Read the numbers in a loop!

Program 2:

Write a C# Program to read a number as user input and display the multiplication table:

Example:

Enter a number: 3

3 X 1 = 3

3 X 2 = 6

3 X 3 = 9

3 X 4 = 12

3 X 5 = 15

:

3 X 10 = 30

Program 3:

Write a C# Program to create and display the following triangle pattern:

Example:

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

Hint: Use nested loops! Refer to the triangle pattern program discussed in the Week-2 Lecture.

Program 4:

Write a program in C# to swap the values of two variables.

Example:

Value1 = 10, Value2 = 20

After swapping:

Value1 = 20, Value2 = 10

Hint: Use a temporary variable

Program 5:

Write a C# Program to read a number 'n' from the user and generate the first 'n' numbers of a Fibonacci series:

Example:

Enter the number of terms to display: 10

The Fibonacci series is: 0 1 1 2 3 5 8 13 21 34

Hint:
By definition, the first two numbers in the Fibonacci sequence are either 1 and 1, or 0 and 1, depending on the chosen starting point of the sequence, and each subsequent number is the sum of the previous two.

The sequence F_n of Fibonacci numbers is defined by the recurrence relation:

$$F_n = F_{n-1} + F_{n-2}$$

Let, $F_1 = 0$ and $F_2 = 1$

Hence, $F_3 = F_2 + F_1$, $F_3 = 0 + 1 = 1$

Reference: https://en.wikipedia.org/wiki/Fibonacci_number