



المادة: Introduction To Programming

المرحلة: الإجازة

المدة: 120 دقيقة

السنة المنهجية: الأولى، الدورة الأولى

الأستاذ: د. يوسف الآتات

الاختصاص: علم البيانات

Question 1:

Write a C program that prints all the numbers from **1 to 100**, but with the following conditions:

- If a number is **divisible by 3**, print "Fizz" instead of the number.
- If a number is **divisible by 5**, print "Buzz" instead of the number.
- If a number is **divisible by both 3 and 5**, print "FizzBuzz".
- Otherwise, print the number itself.

Question 2:

Write a C program that:

1. Reads the grades of **10 students** and stores them in an array.
2. Calculates and displays:
 - The **highest grade**
 - The **lowest grade**
 - The **average grade**
3. Counts and displays the number of students who scored **above the average**.

Question3:

Write a C program that:

1. Creates a **2D matrix** of size **4x4** (4 rows and 4 columns) and allows the user to input the elements of the matrix.
2. Calculates and displays:
 - The **sum** of all elements in the matrix.
 - The **transpose** of the matrix (i.e., swap rows and columns).
 - The **average value** of all the elements in the matrix.
3. Checks if the matrix is a **symmetric matrix** (i.e., it is equal to its transpose) and displays the result.

Question 4:

Write a C program that:

1. Asks the user to input **5 integers**.
2. Calls a function to find the **maximum** number and a separate function to find the **minimum** number.
3. Displays the **maximum** and **minimum** numbers from the entered set of integers.