

## Assignment - 03

### 1. String modifier

Take two strings and a single character as input. Replace all the occurrences of the second string in the first string with the character. **You CANNOT use any library function except for input-output purpose. You CANNOT use any extra character array.**

Sample Input	Sample Output
String 1: abmnyab amnyemny Character: c String 2: mny	abcab acec
String 1: Hemmo Character: l String 2: m	Hello

### 2. Prime master

Write a C program to determine whether a given number is a **Prime Master** or not. A number is considered a Prime Master if it satisfies the following conditions:

- It is a prime number.
- It is a palindrome number.
- The sum of its digits is also a prime number.

You are required to implement three functions:

- **isPrime:** Determine whether a given number is a prime number.
- **isPalindrome:** Determine whether a given number is a palindrome.
- **sumOfDigits:** Calculate the sum of digits of a given number.

Your main program should take a positive integer as input, use the provided functions to check whether it is a **Prime Master** or not, and display the result accordingly.

Sample Input	Sample Output
131	Yes
29	No
101	Yes
123	No

Explanation for the first input:

- 131 is a prime number.
- 131 is a palindrome.
- The sum of the digits ( $1 + 3 + 1$ ) is 5, which is also a prime number. So, 131 is a **Prime master**.

Each problem contains **7.5 marks**. The mark distribution is as follows:

**Mark Distribution:**

**7.5**

1. Properly taking inputs and saving them. (2)
2. Solving logic and proper implementation. (4.5)
3. Properly showing outputs. (1)

**Submission guideline:**

Solve each problem in a single C file. Create a folder with your student ID. Put the 2 source files (only .c files) into the folder. Zip the folder and submit it in **LMS**. If your ID is 12345, the zip file should be 12345.zip.

**Deadline:** 19-04-2024 (08:00 AM) Please remember this is a strict deadline. Under no circumstances, this deadline will change. **Failure to submit during the deadline will result in zero grades.**

**DO NOT COPY** from the internet, seniors, batchmates, or any other sources. You are always welcome to discuss and find the solutions together, but you must write your own code. If found out, there will be -100% marks reduction.

**DO NOT PUT** the question in chatGPT and ask it to write the answer. You may use the tool to learn more about the concepts or take additional help (such as how to use certain methods or how to do certain concepts) but do not directly use it to write code for the problem. If found out, there will be -100% marks reduction.