

Lab 2: C Programming Assignment

Write C programs that use both **recursive** and **non-recursive** functions to solve the following problems:

1. Finding the Factorial of a Given Integer

NOTE: The factorial of a non-negative integer n , denoted as $n!$, is the product of all positive integers from 1 to n . It is defined as follows:

- Base case: $0!=1$ or $1!=1$ (by definition)
- For $n>1$, $n!=n \times (n-1) \times (n-2) \times \dots \times 2 \times 1$

Example:

$$\begin{aligned} 7! &= 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 \\ &= 5040 \end{aligned}$$

To solve this program, start by writing up the algorithm of each problem and then code the solution. Include a trace table as well for your solution.

Code your solution and share the GitHub repository link.