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Self-Made Assignment - C Language

Recursion in C Language

Assignment: Recursive Calculation of Factorial

Write a C program that uses a recursive function to calculate the factorial of a given non-negative integer N.

For example, if the user inputs 5, the program should calculate 5!
 $= 5 \times 4 \times 3 \times 2 \times 1 = 120$.

Instructions:

1. Prompt the user to enter a non-negative integer N.
2. Implement a **recursive function** to compute the factorial:
 - o Base case: factorial(0) should return 1.
 - o Recursive case: factorial(n) = n * factorial(n - 1).
3. Validate the input to ensure it's not negative.
4. Display the result.

Output 1:

```
Enter a non-negative integer: 5  
Factorial of 5 is: 120
```

Output 2:

```
Enter a non-negative integer: 6  
Factorial of 6 is: 720
```