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Self-Made Assignment - C Language

Recursion in C Language

Assignment: Recursively Calculate the Sum of Natural Numbers

Write a recursive function in C that calculates the sum of the first N natural numbers.

For example, if the user inputs 5, the program should compute $1 + 2 + 3 + 4 + 5 = 15$.

Instructions:

1. Prompt the user to enter a positive integer N.
2. Use a recursive function to calculate the sum of numbers from 1 to N.
3. Display the result with an appropriate message.
4. The program should validate that the input is positive.
5. Your recursive function should follow this logic:
 - Base Case: If $n == 1$, return 1.
 - Recursive Case: Return $n + \text{sum}(n - 1)$.

Output 1:

```
Enter a positive integer: 5
Sum of first 5 natural numbers is: 15
```

Output 2:

```
Enter a positive integer: 6
Sum of first 6 natural numbers is: 21
```