AIM

To write a C program to find the factorial of a given number using recursion.

ALGORITHM

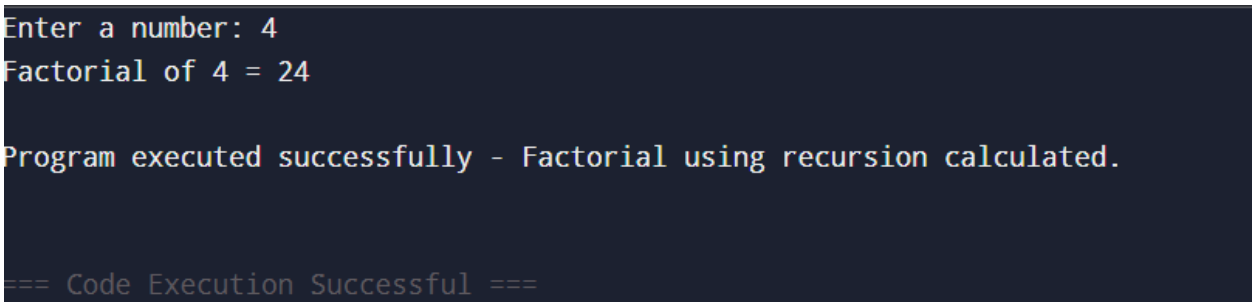
1. Start
2. Read an integer `n` from the user.
3. Define a recursive function `factorial(n)`:
    - If `n == 0` or `n == 1`, return 1.
    - Otherwise, return `n * factorial(n-1)`.
4. Call the function and store the result.
5. Display the result.
6. End

CODE:

```
#include <stdio.h>

// Recursive function to calculate factorial
long long factorial(int n) {
    if (n == 0 || n == 1)
        return 1;
    else
        return n * factorial(n - 1);
}

int main() {
    int n;
    long long result;

    printf("Enter a number: ");
    scanf("%d", &n);
```

```
    if (n < 0) {
        printf("Factorial is not defined for negative numbers.\n");
    } else {
        result = factorial(n);
        printf("Factorial of %d = %lld\n", n, result);
    }

    printf("\nProgram executed successfully - Factorial using recursion calculated.\n");
    return 0;
}
```

INPUT AND OUTPUT



RESULT:

The C program to find the factorial of a given number using recursion was successfully executed and the expected output was obtained.