Aim

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

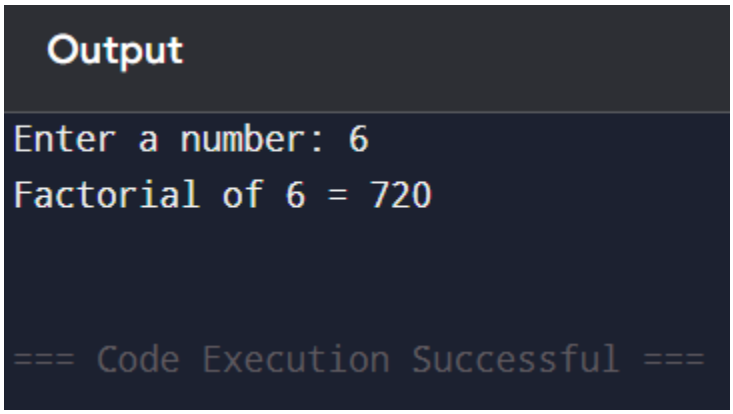
Algorithm

1. Start the program.
2. Define a recursive function `factorial(n)` that:
    - Returns `1` if `n == 0` or `n == 1`.
    - Otherwise, returns `n * factorial(n - 1)`.
3. In `main()`, read a number `n`.
4. Call the recursive function and store the result.
5. Display the factorial.
6. End the program.

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 num;
    long long result;

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

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

    return 0;
}
```

OUTPUT:



RESULT:

The program successfully executed and displayed the factorial of a given number using recursion.