AIM

To write a C program to generate the Fibonacci series using recursion.

ALGORITHM

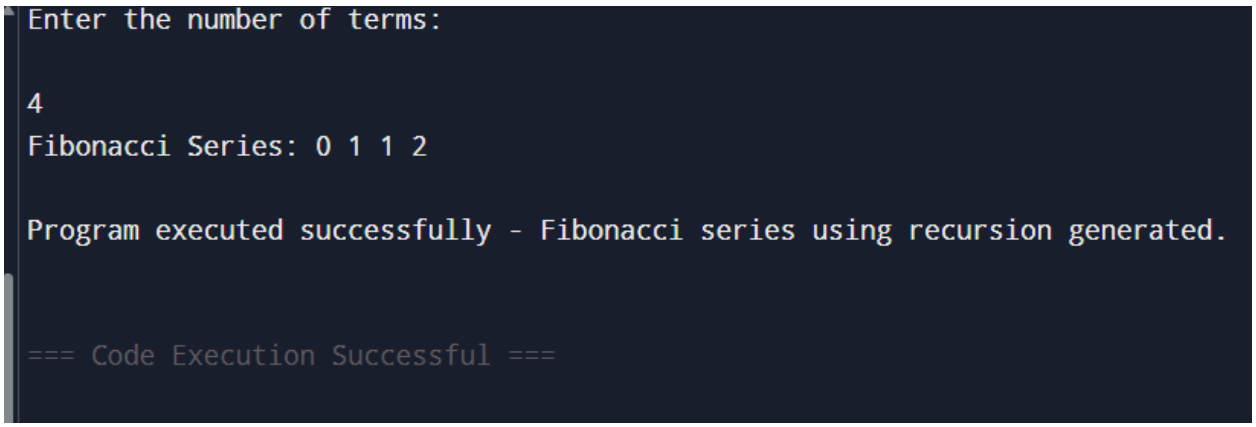
1. Start
2. Read the number of terms `n` from the user.
3. Define a recursive function `fibonacci(int n)`:
    - If `n == 0`, return 0.
    - If `n == 1`, return 1.
    - Otherwise, return `fibonacci(n-1) + fibonacci(n-2)`.
4. In the main function, call `fibonacci(i)` for each term from 0 to `n-1`.
5. Print the values as the Fibonacci series.
6. End
1.

CODE:

```
#include <stdio.h>

// Recursive function to return nth Fibonacci term
int fibonacci(int n) {
    if (n == 0)
        return 0;
    else if (n == 1)
        return 1;
    else
        return fibonacci(n - 1) + fibonacci(n - 2);
}

int main() {
    int n, i;
```

```
    printf("Enter the number of terms: ");
    scanf("%d", &n);

    if (n <= 0) {
        printf("Invalid input! Number of terms should be greater than 0.\n");
    } else {
        printf("Fibonacci Series: ");
        for (i = 0; i < n; i++) {
            printf("%d ", fibonacci(i));
        }
    }

    printf("\n\nProgram executed successfully - Fibonacci series using recursion generated.\n");
    return 0;
}
```

INPUT AND OUTPUT



RESULT:

The C program to generate the Fibonacci series using recursion was successfully executed and the expected output was obtained