**TITLE 24**

Write a C program to generate the Fibonacci sequence

**OBJECTIVE:**

By the end of this activity we will be able to:

Use functions for writing programs in C

**PROBLEM STATEMENT:**

In this problem we aim to calculate the Fibonacci sequence. Input from the user:

Enter the number of terms:

Once the input data is collected and stored, the Fibonacci sequence is computed and the output is printed.

**ALGORITHM:**

START

Define variables: n, i, res

INPUT: Read from the keyboard

COMPUTATION: Compute the Fibonacci sequence

DISPLAY: Print the Fibonacci sequence as output

STOP

**PROGRAM:**

#include<stdio.h>

int fibonacci(int);

int main()

{

int n,i=0,res;

printf("Enter the number of terms: ");

scanf("%d",&n);

for(i=0;i<n;i++)

{

res=fibonacci(i);

printf("%d\t",res);

}

return 0;

}

int fibonacci(int n)

{

if(n==0){

return 0;

}

else if(n==1){

return 1;

}

else{

return(fibonacci(n-1)+fibonacci(n-2));

}

}

**CONCLUSION:**

The simulation of the above C program helped me to understand Fibonacci sequence and functions. This knowledge can be applied to solve other problems.

**OUTPUT:**

Enter the number of terms: 4

0

1

1

2