Ex. No8a **Fibonacci series up to N terms and its sum**

Aim:

To write a C program to generate Fibonacci series of N terms and find its sum.

Algorithm:

1) Start the program.
2) Declare five variable x, y, z, sum and n.
3) Initialize x as -1, y as 1 and sum as 0.
4) Get values for n.
5) For i equal to 0 to n do the following
   a). Calculate z as addition of x and y.
   b). Assign y to x.
   c). Assign z to y.
   d). Display value of z.
   e). Calculate sum as addition of sum and z
6) Display the sum of the series.
7) Stop the program.

Program:

```
#include<stdio.h>
#include<conio.h>

void main()
{
  int i, x, y, z, sum, n;
  clrscr();
  x = -1;
  y = 1;
  sum = 0;
  printf("\nEnter the Number: ");
  scanf("%d",&n);
```

```
  printf("\nFibonacci Series \n\n");
  for(i=0;i<n;i++)
  {
    z = x + y;
    x = y;
    y = z;
    printf("%d ",z);
    sum += z;
  }
  printf("\nSum of the Series is %d",sum);
  getch();
}
```

Result:

Thus the C program to generate Fibonacci series of N terms and find its sum is executed successfully.