| S.No: 9 | Exp. Name: *Design a C program to print the sequence of numbers in which each number is the sum of the three most recent predecessors* | Date:2023-04-02 |
|---|---|---|

## Aim:

Design a C program to print the sequence of numbers in which each number is the sum of the three most recent predecessors. Assume first three numbers as **0**, **1**, and **1**, print the result as shown in the example.

**Sample Input and Output:**

```
Enter the number of terms: 7
First 7 terms in the series are:
0
1
1
2
4
7
13
```

## Source Code:

**first.c**

```c
#include<stdio.h>
int main()
{
    int a=0,b=1,c=1,d,temp,i,n;
    printf("Enter the number of terms: ");
    scanf("%d",&n);
    printf("First %d terms in the series are:\n%d\n%d\n%d\n",n,a,b,c);
    for(i=3;i<n;i++)
    {
        d=a+b+c;
        printf("%d\n",d);
        a=b;
        b=c;
        c=d;
    }
    printf("\n");
    return 0;
}
```

## Execution Results - All test cases have succeeded!

| Test Case - 1 |
|---|
| User Output |
| Enter the number of terms:  5 |
| First 5 terms in the series are: |
| 0 |
| 1 |
| 1 |
| 2 |

| 4 |
| --- |

| Test Case - 2 |
| --- |
| User Output |
| Enter the number of terms:  7 |
| First 7 terms in the series are: |
| 0 |
| 1 |
| 1 |
| 2 |
| 4 |
| 7 |
| 13 |

| Test Case - 3 |
| --- |
| User Output |
| Enter the number of terms:  13 |
| First 13 terms in the series are: |
| 0 |
| 1 |
| 1 |
| 2 |
| 4 |
| 7 |
| 13 |
| 24 |
| 44 |
| 81 |
| 149 |
| 274 |
| 504 |