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:2023-04-01

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 t1=0,t2=1,t3=1,t4,n,i;
    printf("Enter the number of terms: ");
    scanf("%d",&n);
    printf("First %d terms in the series are:",n);
    printf("\n%d\n%d\n%d\n",t1,t2,t3);
    for(i=4;i<=n;i++)
    {
        t4=t1+t2+t3;
        printf("%d\n",t4);
        t1=t2;
        t2=t3;
        t3=t4;
    }
    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

<table>
<tr><td colspan="1" align="center">Test Case - 2</td></tr>
<tr><td>User Output</td></tr>
<tr><td>Enter the number of terms: 7</td></tr>
<tr><td>First 7 terms in the series are:</td></tr>
<tr><td>0</td></tr>
<tr><td>1</td></tr>
<tr><td>1</td></tr>
<tr><td>2</td></tr>
<tr><td>4</td></tr>
<tr><td>7</td></tr>
<tr><td>13</td></tr>
</table>

<table>
<tr><td colspan="1" align="center">Test Case - 3</td></tr>
<tr><td>User Output</td></tr>
<tr><td>Enter the number of terms: 13</td></tr>
<tr><td>First 13 terms in the series are:</td></tr>
<tr><td>0</td></tr>
<tr><td>1</td></tr>
<tr><td>1</td></tr>
<tr><td>2</td></tr>
<tr><td>4</td></tr>
<tr><td>7</td></tr>
<tr><td>13</td></tr>
<tr><td>24</td></tr>
<tr><td>44</td></tr>
<tr><td>81</td></tr>
<tr><td>149</td></tr>
<tr><td>274</td></tr>
<tr><td>504</td></tr>
</table>