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**Started on** Friday, 3 October 2025, 9:34 PM

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**State** Finished

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**Completed on** Friday, 3 October 2025, 9:38 PM

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**Time taken** 4 mins 51 secs

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**Grade** **10.00** out of 10.00 (**100%**)

**Question 1** | Correct Mark 10.00 out of 10.00**Playing with Numbers:**

Ram and Sita are playing with numbers by giving puzzles to each other. Now it was Ram term, so he gave Sita a positive integer 'n' and two numbers 1 and 3. He asked her to find the possible ways by which the number n can be represented using 1 and 3. Write any efficient algorithm to find the possible ways.

**Example 1:**

**Input:** 6

**Output:** 6

**Explanation:** There are 6 ways to represent number with 1 and 3

1+1+1+1+1+1

3+3

1+1+1+3

1+1+3+1

1+3+1+1

3+1+1+1

**Input Format**

First Line contains the number n

**Output Format**

**Print:** The number of possible ways 'n' can be represented using 1 and 3

**Sample Input**

6

**Sample Output**

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 long long countways(int n)
3 {
4     long long dp[n+1];
5     dp[0]=1;
6     for (int i=1;i<=n;i++)
7     {
8         dp[i]=0;
9         if(i-1>=0)
10            dp[i]+=dp[i-1];
11         if(i-3>=0)
12            dp[i]+=dp[i-3];
13     }
14     return dp[n];
15 }
16 int main()
17 {
18     int n;
19     scanf("%d",&n);
20     if(n<0)
21     {
22         return 1;
23     }
24     long long ways=countways(n);
25     printf("%lld",ways);
26     return 0;
27 }
```

	Input	Expected	Got	
✓	6	6	6	✓
✓	25	8641	8641	✓
✓	100	24382819596721629	24382819596721629	✓

Passed all tests! ✓

Correct

Marks for this submission: 10.00/10.00.