Started on	Thursday, 25 September 2025, 8:44 AM
State	Finished
Completed on	Thursday, 25 September 2025, 8:59 AM
Time taken	15 mins 7 secs
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 6 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

6

Answer: (penalty regime: 0 %)

```
#include<stdio.h>
long long countways(int n)
{
    long long dp[n+1];
    dp[0]=1;
    for(int i=1;i<=n;i++)
    {
        dp[i]=0;
        if(i-1>=0)
            dp[i]+=dp[i-1];
        if(i-3>=0)
            dp[i]+=dp[i-3];
    }
    return dp[n];
}
int main()
{
    int n;
    scanf("%d",&n);
    if(n<0)
    {
        return 1;
    }
    long long ways=countways(n);
    printf("%lld",ways);
    return 0;
```

```
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.