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## 1-DP-Playing with Numbers

Started on	Wednesday, 5 November 2025, 6:42 AM
State	Finished
Completed on	Wednesday, 5 November 2025, 6:47 AM
Time taken	4 mins 32 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 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 %)

```
1 #include <stdio.h>
2
3 long long countWays(int n) {
4     long long dp[n + 1];
5
6     dp[0] = 1;
7     for (int i = 1; i <= n; i++) {
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
15     return dp[n];
16 }
17
18 int main() {
19     int n;
20     scanf("%d", &n);
21     printf("%lld\n", countWays(n));
22     return 0;
23 }
```

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

Passed all tests! ✓

Correct

Marks for this submission: 10.00/10.00.

Finish review

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Data retention summary