



JAYARAMAN S 2024-CSE ▾

J2

Started on Sunday, 26 October 2025, 9:02 PM**State** Finished**Completed on** Sunday, 26 October 2025, 9:17 PM**Time taken** 15 mins 34 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 %)

```

1  #include <stdio.h>
2
3  long long countWays(int n) {
4      if (n < 0)
5          return 0;
6      if (n == 0)
7          return 1;
8
9      long long dp[n + 1];
10     for (int i = 0; i <= n; i++)
11         dp[i] = 0;
12
13     dp[0] = 1; // base case
14
15     for (int i = 1; i <= n; i++) {
16         if (i - 1 >= 0)
17             dp[i] += dp[i - 1];
18         if (i - 3 >= 0)
19             dp[i] += dp[i - 3];
20     }
21
22     return dp[n];
23 }
24
25 int main() {
26     int n;
27     scanf("%d", &n);
28     printf("%lld", countWays(n));
29     return 0;
30 }
31

```

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

Passed all tests! ✓

Correct

Marks for this submission: 10.00/10.00.

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