

[Dashboard](#) / [My courses](#) / [CS23331-DAA-2023-CSE](#) / [Dynamic Programming](#) / [1-DP-Playing with Numbers](#)

Started on	Friday, 25 October 2024, 1:49 PM
State	Finished
Completed on	Friday, 25 October 2024, 1:55 PM
Time taken	5 mins 40 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 int count_ways_to_sum(int n) {
4
5     if (n == 0) return 1;
6     if (n == 1) return 1;
7     if (n == 2) return 1;
8
9     long long int dp[n + 1];
10
11     dp[0] = 1;
12     dp[1] = 1;
13     dp[2] = 1;
14
15     for (int i = 3; i <= n; i++) {
16         dp[i] = dp[i - 1] + dp[i - 3];
17     }
18
19     return dp[n];
20 }
21
22 int main() {
23     int n;
24     scanf("%d", &n);
25     printf("%lld\n", count_ways_to_sum(n));
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.

◀ 5-Implementation of Quick Sort

Jump to...

▾

2-DP-Playing with chessboard ▶