

CS23331-Design and Analysis of Algorithms-2023 Batch-CSE

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Quiz navigation



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Started on	Tuesday, 22 October 2024, 1:52 PM
State	Finished
Completed on	Tuesday, 22 October 2024, 2:15 PM
Time taken	22 mins 25 secs
Grade	10.00 out of 10.00 (100%)

Question 1

Correct

Mark 10.00 out of 10.00

Flag question

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 int main(){
3     int n;
4     scanf("%d",&n);
5     long long arr[n+1];
6     for(int i=0;i<n+1;i++){
7         if(i==0){
8             arr[0]=1;
9         }
10        else{
11            arr[i]=0;
12        }
13    }
14    for(int i=0;i<n+1;i++){
15        if(i-1>=0){
16            arr[i]+=arr[i-1];
17        }
18        if(i-3>=0){
19            arr[i]+=arr[i-3];
20        }
21    }
22    printf("%lld",arr[n]);
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.

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