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

Quiz navigation

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Finish review

Status	Finished
Started	Tuesday, 22 April 2025, 1:13 PM
Completed	Tuesday, 22 April 2025, 1:23 PM
Duration	10 mins 39 secs
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 10.00 out of 10.00

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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 %)

```c
#include<stdio.h>
int main()
{
    int n;
    scanf("%d",&n);
    long long dp[1001];
    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];
    }
    printf("%lld\n",dp [n]);
    return  0;
}
```

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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