Dashboard / My courses / CS23331-DAA-2023-CSE / Dynamic Programming / 1-DP-Playing with Numbers

Started on	Tuesday, 29 October 2024, 1:47 PM
State	Finished
Completed on	Tuesday, 29 October 2024, 1:50 PM
Time taken	3 mins 30 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 %)

```c
#include<stdio.h>
long long int count(int n){
    long long int table[n+1];
    int i;
    for(i=0;i<=n+1;i++){
        table[i] = 0;
    }
    table[0]=1;
    for(int i = 1;i<=n;i++){
        table[i] +=table[i-1];
        if(i>=3){
            table[i] +=table[i-3];
        }
    }
    return table[n];
}
int main(){
    int n;
    scanf("%d",&n);
    printf("%lld",count(n));
}
```

	Input	Expected	Got	
✔	6	6	6	✔
✔	25	8641	8641	✔

	Input	Expected	Got	
✔	100	24382819596721629	24382819596721629	✔

Passed all tests! ✔

Correct

Marks for this submission: 10.00/10.00.

Jump to...

	Input	Expected	Got	
✔	100	24382819596721629	24382819596721629	✔

Passed all tests! ✔

Correct

Marks for this submission: 10.00/10.00.