1-DP-Playing with Numbers

Started on	Wednesday, 15 October 2025, 10:09 AM
State	Finished
Completed on	Wednesday, 15 October 2025, 10:25 AM
Time taken	16 mins 20 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 %)

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