Started on	Wednesday, 20 November 2024, 1:45 PM
State	Finished
Completed on	Wednesday, 20 November 2024, 2:06 PM
Time taken	21 mins 32 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>
#include <stdlib.h>
long long count_ways(int n) {
    long long *dp = (long long *)malloc((n + 1) * sizeof(long long));
    for (int i = 0; i <= n; i++) {
        dp[i] = 0;
    }
    dp[0] = 1;
    for (int i = 1; i <= n; i++) {
        dp[i] += dp[i - 1];
        if (i >= 3) {
            dp[i] += dp[i - 3];
        }
    }
    long long result = dp[n];
    free(dp);
    return result;
}
int main() {
    int n;
    scanf("%d", &n); // Input the number n
    printf("%lld\n", count_ways(n)); // Output the number of ways
    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.

◄ 5-Implementation of Quick Sort

Jump to...

2-DP-Playing with chessboard ►