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 %)

```
#include <stdio.h>
#include <string.h>

long long int numbers(int n, long long int *memo) {
    if (memo[n] != -1) {
        return memo[n];
    }

    if (n <= 2) {
        return 1;
    } else {
        memo[n] = numbers(n - 1, memo) + numbers(n - 3, memo);
    }
    return memo[n];
}

int main() {
    int n;
    scanf("%d", &n);


    long long int memo[n + 1];
    memset(memo, -1, sizeof(memo));
    long long int result = numbers(n, memo);
    printf("%lld\n", result);

    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 ►