


Day 1 Div C. Dynamic Programming

 9 Mar 2019, 20:45:03

start: 9 Mar 2019, 17:00:00

finish: 9 Mar 2019, 21:00:00

till the end: 00:14:48

start: 9 Mar 2019, 17:00:00

end: 9 Mar 2019, 21:00:00

duration: 04:00:00

A. Zeroes and ones

Time limit	1 second
Memory limit	64Mb
Input	standard input or zo.in
Output	standard output or zo.out

Find a number of sequences of length N consisting of zeroes and ones, such that there are no neighbouring ones.

Input format

The only string of the input contains the only integer N ($1 \leq N \leq 40$).

Output format

Print one number — needed number of sequences.

Sample

Input	Output
3	5

Language

GNU c11 4.9

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```
1 //CMU Qatar: Sparta
2 //Interactive number search
3 #include<stdio.h>
4 #include<string.h>
5
6 int problem1H(int index, int len,int check)
7 {
8     if (index == len)
9         return 1;
10    if (check)
11    {
12        return problem1H(index +1 ,len,0);
13    }
14    else
15    {
16        return problem1H(index +1 ,len,1) + problem1H(index +1 ,len,0);
17    }
18 }
19
20 void problem1()
21 {
22     int len;
23     FILE *f = fopen("zo.in","r");
24     fscanf(f,"%d",&len);
25     f = fopen("zo.out","w");
26     fprintf(f,"%d",problem1H(1 ,len,1) + problem1H(1 ,len,0));
27 }
28
29
30 int main()
31 {
32
33     problem1();
34     // problem2();
35     // problem3();
36     // problem4();
37     // problem5();
38     return 0;
```

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