Coding Ninjas

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ASK/VIEW DOUBT | SOLUTION | Code Pair | C++ (g++ 5.4)

Problem | Result

Sheldon's Challenge

Send Feedback

Dr. Sheldon Cooper is a renowned physicist who always picks on Howard Wolowitz just because he does not have a Doctorate. Today, he decided to mess with Howard by giving him a challenging mathematical question. He gave him a sequence where nth term is given by

f(n) = 5*f(n-1) + 3*f(n-2) for n>1 and f(0)=f(1)=1.

He then asks him to find the last 3 digits of f(p) where p is the product of first K numbers of the recurrence

g(n) = 2*g(n-1) + 3*g(n-2) for n>1 and g(0)=g(1)=1

Since Howard is a Mechanical Engineer, he can't the solve the problem on his own and asks for your help. Help Howard solve the problem.

Constraints:

3 <= K <= 40
Time Limit: 3 second

Input Format:

A single Integer K

Output Format:

```
#include<bits/stdc++.h>
using namespace std;
int main() {

    // Write your code here
}
```

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Since Howard is a Mechanical Engineer, he can't the solve the problem on his own and asks for your help. Help Howard solve the problem.

Constraints:

3 <= K <= 40
Time Limit: 3 second

Input Format:

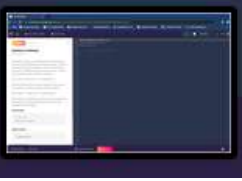
A single Integer K

Output Format:

The output must consist of a single line containing last 3 digits of f(p).
Note: Do not print Leading Zeroes

```
#include<bits/stdc++.h>
using namespace std;
int main() {

    // Write your code here
}
```



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