



STUDENT REPORT

DETAILS

Name

SHAGUFTHA NIKHAR

Roll Number

3BR23CD087

EXPERIMENT

Title

SPECIAL FIBONACCI

Description

Alex is exploring a series and she came across a special series, in which

$$f(N) = f(N-1) * f(N-1) + f(N-2) * f(N-2) \text{ mod } 47$$

where $f(0) = 1$. $f(1) = 1$

Your task is to help Alex find and return an integer value, representing the Nth number in this special series.

Input Specification:

input1: An integer value N.

Output Specification:

Return an integer value, representing the Nth number in this special fibonacci series.

Sample Input:

4

Sample Output:

29

Source Code:

```
def fib(n, memo={}):
    if n==0 or n==1:
        return 1
    if n in memo:
        return memo[n]
    res=(fib(n-1, memo)**2+fib(n-2, memo)**2)%47
    memo[n]=res
    return res
n=int(input())
print(fib(n))
```

RESULT

3BK

0087

23CL

3BK
3BR

0087
0087

23CL
23CL

3BR
3P