



# STUDENT REPORT

## DETAILS

Name

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Roll Number

22B124EE408-T

## EXPERIMENT

Title

FELLIS FUNCTION

Description

Morris Fellis has come up with a new function called Fellis function Morris defines the function as follows:

$$f(0)=1$$

$$f(1)=1$$

$$f(N)=f(N-1)+7*f(N-2)+(N/4) \text{ modulo } 10^9+7$$

Given an integer N, your task is to help Morris find and return an Integer value of  $f(N)$ , after performing Fellis Function.

Note: Here the division operator is integer division operator ie, it divides two numbers and returns the integer part of the result

Input Specification:

Input1: An integer value N, representing the Fellis Function value.

Sample Input:

8

Sample Output:

6713

Source Code:

```
def fel(n,memo={}):
    if n==0 or n==1:
        return 1
    if n in memo:
        return memo[n]
    res=(fel(n-1,memo)+7*fel(n-2,memo)+n//4)%(10**9+7)
    memo[n]=res
    return res
n=int(input())
print(fel(n))
```

## RESULT

22B

EE40

22B1

E408-  
4EE4

2B12  
- 22B

408-T  
EE40

2124EE  
22B