Fibonacci

Time limit: 1 sec

Fibonacci number is a sequence of number which is <0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...>. We let the i[th] Fibonacci number be denoted by F_i . The first two numbers, F_0 and F_1 are defined as 0 and 1, respectively. The remaining number is calculated by adding the previous two numbers together, following this recurrent relation $F_i = F_{i-1} + F_{i-2}$ For example the 2[nd] Fibonacci number, F_2 , is 1 = 0 + 1.

Your Task

Write a function called "Fibonacci" in the given code. The function should calculate F_N from the given value n.

Input

Input has exactly one line containing exactly one integer **N** (1 <= N <=45)

Output

Output exactly one line containing F_N

Example

Input	Output
1	1
10	55
17	1597

Haskell Input

Please use the following starting code. The code read an integer n from the input and call the function fibonacci

```
main :: IO ()
main = (readLn >>= (\n -> putStrLn (show (fibonacci n))))

fibonacci :: Integer -> Integer
-- write your function here
```

Remark

The last two test data is quite large, you need to optimize your code to pass.