The Fibonacci numbers (0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...) are defined by the recurrence:

$$
\begin{aligned}
F_0 &= 0 \\
F_1 &= 1 \\
F_i &= F_{i-1} + F_{i-2} \text{ for all } i \geq 2
\end{aligned}
$$

Write a program to calculate the Fibonacci Numbers.

Input

The input to your program would be a sequence of numbers smaller or equal than 5000, each on a separate line, specifying which Fibonacci number to calculate.

Output

Your program should output the Fibonacci number for each input value, one per line.

Sample Input

```
5
7
11
```

Sample Output

```
The Fibonacci number for 5 is 5
The Fibonacci number for 7 is 13
The Fibonacci number for 11 is 89
```