

# Project Euler #25: N-digit Fibonacci number

This problem is a programming version of [Problem 25](#) from [projecteuler.net](#)

The Fibonacci sequence is defined by the recurrence relation:

$$F_n = F_{n-1} + F_{n-2}, \text{ where } F_1 = 1 \text{ and } F_2 = 1$$

Hence the first 12 terms will be:

$$\begin{aligned} F_1 &= 1 \\ F_2 &= 1 \\ F_3 &= 2 \\ F_4 &= 3 \\ F_5 &= 5 \\ F_6 &= 8 \\ F_7 &= 13 \\ F_8 &= 21 \\ F_9 &= 34 \\ F_{10} &= 55 \\ F_{11} &= 89 \\ F_{12} &= 144 \end{aligned}$$

The  $12^{th}$  term,  $F_{12}$ , is the first term to contain three digits.  
What is the first term in the Fibonacci sequence to contain  $N$  digits?

## Input Format

The first line contains an integer  $T$ , i.e., number of test cases.  
Next  $T$  lines will contain an integer  $N$ .

## Constraints

$$\begin{aligned} 1 &\leq T \leq 5000 \\ 2 &\leq N \leq 5000 \end{aligned}$$

## Output Format

Print the values corresponding to each test case.

## Sample Input

```
2
3
```

**Sample Output**

```
12
17
```