# 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:

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

Hence the first 12 terms will be:

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

The  ${f 12}^{th}$  term,  $F_{{f 12}}$ , 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.

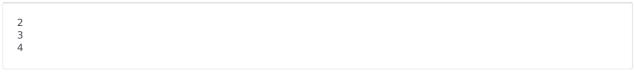
#### **Constraints**

$$\begin{array}{l} 1 \leq T \leq 5000 \\ 2 \leq N \leq 5000 \end{array}$$

#### **Output Format**

Print the values corresponding to each test case.

## **Sample Input**



# **Sample Output**

12			
12			
17			