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

The 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.

Output Format
Print the values corresponding to each test case.

Constraints
$1 \le T \le 5000$
$2 \le N \le 5000$

Sample Input

```
2
3
4
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Sample Output

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12
17
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