Google Code Jam 2016 - Counting Sheep

When you start counting sheep, a monotonous activity, you might fall asleep. Instead, you decide to count distinct digits you encounter while counting sheep. For example, if you start counting sheep starting with the number 1692, you see the digits 1, 6, 9, and 2. If you then see the number 3384, you will see the digits 3 and 8. Once you have seen all ten digits at least once, you will fall asleep.

To make sure you will fall asleep, you decide to count starting with a particular number, and keep counting (with increments of that number) until you have seen all ten digits at least once. If you start with the number 1692, for example, you will see the digits 1, 6, 9, and 2 in the first number, then 3 and 8 in the next number (3384), and then 0, 4, 5, and 7 in the next number (5076).

What is the last number you see before you fall asleep? If you will never fall asleep, print "INSOMNIA".

Input:
The first line of the input gives the number of test cases, T. T test cases follow. Each consists of a single integer N, the number you will start counting from.

Output:
For each test case, output one line containing "Case #x: y", where x is the test case number (starting from 1) and y is the last number you see before you fall asleep, or "INSOMNIA" if you will never fall asleep.

Limits:
1 <= T <= 100.
0 <= N <= 10^6.

Sample:
Input:
5
0
1
2
11
1692

Output:
Case #1: INSOMNIA
Case #2: 10
Case #3: 90
Case #4: 110
Case #5: 5076