Problem N. Extremely Round

Time limit 3000 ms
Mem limit 524288 kB

Let's call a positive integer *extremely round* if it has only one non-zero digit. For example, $5000, 4, 1, 10, 200$ are extremely round integers; $42, 13, 666, 77, 101$ are not.

You are given an integer n. You have to calculate the number of extremely round integers x such that $1 \le x \le n$.

Input

The first line contains one integer t ($1 \le t \le 10^4$) — the number of test cases.

Then, t lines follow. The i-th of them contains one integer n ($1 \le n \le 999999$) — the description of the i-th test case.

Output

For each test case, print one integer — the number of extremely round integers x such that $1 \le x \le n$.

Examples

Input	Output
5 9 42 13 100 111	9 13 10 19 19