You have N cards and each has an unique number between 1 and N written on it. In how many ways can you select a non-empty subset of the cards such that the number written on any two of your selected cards don't have any common digits?

For example, when $N = 12$, $\{1, 2, 3\}$, $\{2, 11\}$, $\{3, 4, 5, 6, 7, 8, 9, 12\}$ are some valid selections. But $\{1, 2, 10\}$, $\{2, 5, 12\}$ are not allowed.

Input

The first line of the input contains an integer T ($T \leq 15$) which is the number of test cases. Each of the following T lines denote a test case, containing an integer N ($1 \leq N < 10^9$).

Output

For each test case, output the case number followed by the number of subsets *modulo* 1000000007.

Sample Input

```
2
3
12
```

Sample Output

```
Case 1: 7
Case 2: 1151
```