

Digit

Input file: **standard input**
Output file: **standard output**
Time limit: 2.5 seconds
Memory limit: 1024 megabytes

Given a positive integer n , in each turn:

1. Uniformly choose a digit d from n (in decimal representation).
2. Update n by setting $n \leftarrow n \cdot (d + 1)$.

Calculate the expected number of turns it takes for n to exceed N , modulo 998244353.

Input

There are multiple test cases in a single test file.

The first line of the input contains a single integer T ($1 \leq T \leq 200$), indicating the number of the test cases.

For each test case, the first line of the input contains two integers n and N ($1 \leq n \leq N \leq 10^{18}$).

Output

For each test case, output a single line contains a single integer, indicating the answer.

It can be proved that the answer always exists.

Example

standard input	standard output
3	3
1 10	4
1 100	942786340
1 1000	