

Permutation Problem

How many n -digit numbers (without leading zeros) are there such that no digit occurs more than k times?

As the count of such n -digit numbers can be very large, print the answer mod (10^9+7)

Input Format

The first line contains an integer, T , the number of test cases. This is followed by T lines each containing 2 space separated integers, n and k

Constraints

- $T \leq 100000$
- $1 \leq n \leq 1000$
- $1 \leq k \leq 10^9$

Sample Input

```
2
2 3
2 1
```

Sample Output

```
90
81
```

Explanation

Case 1: A number can appear three times. So we have 9 (all except 0) numbers for first digit and 10 numbers for the second digit.

Case 2: A number can appear only once. So we have 9 choices for the first digit and 9(all except the first one) for the second digit.