The Final Problem

Sherlock has had enough time getting BORED! To keep him busy, John decides to give him a puzzle:

The "merit" of a N-digit number containing digits as $D_1D_2D_3...D_n$ (without any leading zeroes) is given as:

$$\sum_{i=2}^{N}(D_i - D_{i-1}).$$

Given 2 Numbers, N and M. The task is to find the count of all such N digit positive integers whose merit value is equal to M.

Sherlock is a high functioning sociopath but isn't very good with numbers. He needs your help to get through this. Help him find the answer.

Note: Since the value can be large, compute the answer modulo

10^9 +7.

Input:

The first line contains one integer T denoting the number of test cases.

This will be followed by T lines each two space-separated integers N and M.

Output:

A single integer modulo 10^9 +7 which denotes the count of N digit numbers having merit value as M.

Constraints:

$2 <= N <= 10^{18}$

$|M| <= 300$

$1 <= T <= 10^5$

Sample Input:

1

2 3

Sample Output:

6

Explanation: The integers will be 14, 25, 36, 47, 58 and 69.