Problem E
Rainbow Numbers

Time limit: 1 second
Memory limit: 1024 megabytes

Problem Description

Froggy loves numbers and rainbows. Today, he wants to combine these two of his favorite things. He defines rainbow numbers are numbers satisfying the following constraints.

- The number is a non-negative integer.
- The decimal representation of the number can be written as $a_1a_2\cdots a_n$ where $a_i \in \{0, 1, \ldots, 9\}$ for $i \in \{1, 2, \ldots, n\}$.
- There is no leading zeros. That is, $a_1 \neq 0$ if $n > 1$.
- Any two consecutive digits of the number must different. That is, for $1 < i \leq n$, $a_{i-1} \neq a_i$.

For instances, 1213 and 384379 are rainbow numbers. Note that 2334 is not a rainbow number, because there are consecutive 3's. Just like rainbows, two consecutive tracks are in different colors.

Given two integers L and R, please help Froggy find out how many rainbow numbers there are within the interval $[L, R]$.

Input Format

The first line contains an integer T indicating the number of testcases. Each test case is one line containing two integers L and R.

Output Format

For each testcase, output how many rainbow numbers are in the interval $[L, R]$. If there are more than 1000000006, then output the answer modulo 1000000007.

Technical Specification

- $1 \leq T \leq 20$
- $0 \leq L \leq R < 10^{100}$

Sample Input 1

```
1
5 20
```

Sample Output 1

```
15
```

Sample Input 2

```
2
330 339
330 340
```

Sample Output 2

```
0
1
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