Problem F: Palindrome Quest at Universal

Filename: `numpal`
Time limit: `3 seconds`

You're attending the prestigious ICPC Programming Camp at the University of Central Florida (UCF), where daily algorithm drills are followed by epic evening excursions. Today's outing? Universal Studios Orlando!

At the entrance to the park, you're greeted with a mysterious challenge posted on a board:

"Only those who can count the magic palindromes between two gate numbers may enter the realm of roller coasters!"

You quickly realize that magic palindromes refer to numbers that read the same backward and forward in decimal. For example, 7, 121, and 9889 are palindromes; but 123 and 2301 are not.

Being the fastest in your group with a keyboard, you agree to write a program to help everyone pass.

Given multiple pairs of integers **l** and **r**, count how many magic palindromes exist in the inclusive range [**l**, **r**]

Problem

You are given two integers **l** and **r**. Your task is to count the number of magic palindromes between **l** and **r**. In other words, count the number of numbers that are the same forwards and backwards written in base 10, and are greater than or equal to **l** but less than or equal to **r**.

Input

The first line contains an integer **c** — the number of Universal gate puzzles you must solve (test cases). Each of the next **c** lines contains two integers **l** and **r** — the starting and ending gate numbers for the current puzzle.

Output

For each puzzle, output a single integer — the number of magic palindromes between **l** and **r**, inclusive.

Input Bounds and Corresponding Credit

30 Points	70 Points
• $1 \le \mathbf{c} \le 10^4$ • $1 \le \mathbf{l} \le \mathbf{r} \le 10^6$	• $1 \le \mathbf{c} \le 10^6$ • $1 \le \mathbf{l} \le \mathbf{r} \le 10^{12}$

Samples

Input	Output
2 1 10 100 200	9 10

Sample Explanations

- Test Case 1: [1, 10]: All numbers except 10 are palindromes.
- Test Case 2: [100, 200]: The palindromes are 101, 111, 121, 131, 141, 151, 161, 171, 181, and 191.