

## Problem A: Alpha-Bond

The foundation of all computing systems is all about math. KKU students love math, teachers love math, and I know everyone loves math. There is a boy named Beta, who also loves math so much that he likes to play with numbers. One day, he defines a new term: **alpha-bond**.

Let's say a pair of distinct positive integers  $(p, q)$  has an **alpha-bond** if you can create  $q$  by moving some digits from the end of  $p$  to the beginning. For example,  $(423767, 674237)$  is an **alpha-bonded** pair since you can create 674237 by moving the last two digits of 423767 to the front. Note that  $p$  and  $q$  must have the same number of digits (without leading zeros) to be considered an **alpha-bonded** pair.

Given integers  $A$  and  $B$  with the same number of digits and no leading zeros, your task is to calculate how many distinct **alpha-bonded** pairs  $(p, q)$  are there such that  $A \leq p < q \leq B$ ?

### Input:

The first line contains an integer  $T$ , the number of test cases. Each of the following  $T$  lines contains two integers  $A$  and  $B$  in each test case.

### Output:

For each test case, output a single integer representing the number of distinct **alpha-bonded** pairs between  $A$  and  $B$ .

Sample Input	Sample Output
4 1 5 10 50 100 500 1111 2222	0 6 156 287

**Explanation:***Test Case #2:*

There are six pairs of alpha-bonded numbers between 10 and 50

- (13, 31)
- (24, 42)
- (12, 21)
- (23, 32)
- (14, 41)
- (34, 43)

**Constraints:**

- $1 \leq T \leq 50$
- $1 \leq A \leq B \leq 2,000,000$