

Practice Mode

Contest scoreboard | Sign in

#### Qualification Round 2012

A. Speaking in Tongues

**B.** Dancing With the Googlers

C. Recycled Numbers

D. Hall of Mirrors

**Contest Analysis** 

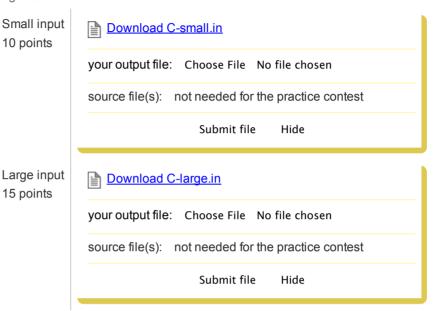
**Questions asked** 

# Submissions Speaking in Tongues 15pt Not attempted 17356/19464 users correct (89%) Dancing With the Googlers 10pt | Not attempted 12384/13899 users correct (89%) 10pt | Not attempted 10762/12138 users correct (89%) Recycled Numbers 10pt | Not attempted 11747/12327 users correct (95%) 15pt Not attempted 6811/10604 users correct (64%) Hall of Mirrors 15pt Not attempted 551/879 users correct (63%)25pt Not attempted 184/259 users correct (71%)

| <ul> <li>Top Scores</li> </ul> |     |
|--------------------------------|-----|
| hos.lyric                      | 100 |
| qnighy                         | 100 |
| DjinnKahn                      | 100 |
| levlam                         | 100 |
| iwiskimo                       | 100 |
| mystic                         | 100 |
| TripleM                        | 100 |
| aleksey                        | 100 |
| royf                           | 100 |
| krijgertje                     | 100 |

## **Problem C. Recycled Numbers**

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the <u>Quick-Start Guide</u> to get started.



#### Problem

Do you ever become frustrated with television because you keep seeing the same things, recycled over and over again? Well I personally don't care about television, but I do sometimes feel that way about numbers.

Let's say a pair of distinct positive integers (n, m) is *recycled* if you can obtain m by moving some digits from the back of n to the front without changing their order. For example, (12345, 34512) is a recycled pair since you can obtain 34512 by moving 345 from the end of 12345 to the front. Note that n and m must have the same number of digits in order to be a recycled pair. Neither n nor m can have leading zeros.

Given integers **A** and **B** with the same number of digits and no leading zeros, how many distinct recycled pairs (n, m) are there with  $\mathbf{A} \le n < m \le \mathbf{B}$ ?

### Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow. Each test case consists of a single line containing the integers **A** and **B**.

### Output

For each test case, output one line containing "Case #x: y", where x is the case number (starting from 1), and y is the number of recycled pairs (n, m) with  $\mathbf{A} \le n < m \le \mathbf{B}$ .

### Limits

 $1 \le \mathbf{T} \le 50$ .

A and B have the same number of digits.

Small dataset

 $1 \le A \le B \le 1000$ .

Large dataset

 $1 \le A \le B \le 2000000$ .

# Sample

| Input Output  |  |
|---|--|
| 4 Case #1: 0 1 9 Case #2: 3 10 40 Case #3: 156 100 500 Case #4: 287 1111 2222 |  |

Are we sure about the output to Case #4?

Yes, we're sure about the output to Case #4.

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