

## 4274 Programmers

In some international companies (e.g. SUN and IBM), programmers can work at home via internet.

Each programmer has his/her own work time interval. For example, Tom always works from 11:15 to 19:34 every day and Alice works from 22:14 to 05:13 of the morrow. Note that the time intervals may span two days, but the lengths of them will be strictly less than 24 hours.

Two programmers can talk with each other by instant messenger software if and only if their work time intervals overlap. Note that only having common beginning or ending point doesn't work. For example, the interval (11:15, 19:34) overlaps with the interval (19:33, 20:10), but (11:15, 19:34) doesn't overlap with (19:34, 11:15).

Now a big project needs as many programmers as possible such that any two of them can talk with each other at some time in their work time intervals.

You are to find the maximum number of programmers who can participate in the project.

### Input

The input consists of multiple test cases. Each test case starts with a line containing one integers  $N$  ( $1 \leq N \leq 1000$ ), which is the number of programmers in the company.

Each of the following  $N$  lines gives a work time interval of a programmer in the format of 'ab:cd-ef:gh', where 'ab:cd' and 'ef:gh' are beginning time and ending time written in the 24-hour notation. You can assume that the input times are legal and the beginning and ending times are different.

The last test case is followed by a line containing one zero.

### Output

For each test case, print a line containing the test case number (beginning with 1) followed by a integer which is the maximum number of programmer who can participate in the project.

### Sample Input

```
3
21:59-00:43
00:42-13:03
12:00-22:00
3
21:59-21:58
21:58-21:59
21:58-05:08
0
```

### Sample Output

```
Case 1: 3
Case 2: 2
```