

7711 Confusing Date Format

Reading date sometimes can be confusing, especially on “international” documents where we don’t know the date format being used. For example, what does ‘04-10-11’ refer to? Is it 4 October 1911? 11 October 1904? 10 April 1911?

The basic components of a date are: D (day), M (month), and Y (year). Generally, there are three date formats being used around the world:

- D-M-Y (little endian), e.g., 04-10-11 means 4 October 1911,
- Y-M-D (big endian), e.g., 04-10-11 means 11 October 1904,
- M-D-Y (middle endian), e.g., 04-10-11 means 10 April 1911.

For the purpose of this problem, we also consider these additional formats:

- D-Y-M, e.g., 04-10-11 means 4 November 1910,
- M-Y-D, e.g., 04-10-11 means 11 April 1910,
- Y-D-M, e.g., 04-10-11 means 10 November 1904.

Given a date “ $A-B-C$ ” in unknown format (one of the above formats), determine how many different dates are represented by it. Each of A , B , and C will be two digits integer. Only the last two digits of the years will be given, and the year is between 1900 and 1999, inclusive.

Be careful, you also need to consider leap year in your solution. Definition of leap year is: “every year that is exactly divisible by four is a leap year, except for years that are exactly divisible by 100, but these centurial years are leap years if they are exactly divisible by 400” (taken from Wikipedia).

In case you don’t know how many days in a month, use the following table:

#	Month	Number of Days
01	January	31
02	February	28 (29 in leap year)
03	March	31
04	April	30
05	May	31
06	June	30
07	July	31
08	August	31
09	September	30
10	October	31
11	November	30
12	December	31

To punish teams who did not read this problem statement carefully, we’ll add one trick input: if the input is “04-05-01”, the output should be 1 (not 6). Now, solve this problem as fast as possible! The sooner you solve this problem, the lesser your time penalty for this problem will be, of course that is if your solution is correct.

Input

The first line of input contains an integer T ($T \leq 100$) denoting the number of cases. Each case will be given in the following format: ‘ $A-B-C$ ’ ($00 \leq A, B, C \leq 99$) representing a date in unknown format. Each of A , B , and C will be two digits integer.

Output

For each case, output ‘Case # X : Y ’ (without quotes) in a line where X is the case number (starts from 1), and Y is the answer for this particular case.

Explanation for the sample:

First case: This is the example given in the problem statement.

Second case: There is only one possible date: 15 February 1929 (Y-M-D). Note that 29 February 1915 is not a valid date as 1915 is a common year (not leap year), thus February 1915 has only 28 days.

Third case: There are no possible dates.

Fourth case: There are two possible dates: 2 January 1900 (D-Y-M) and 1 February 1900 (M-Y-D).

Sample Input

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4
04-10-11
29-02-15
60-50-90
02-00-01
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Sample Output

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Case #1: 6
Case #2: 1
Case #3: 0
Case #4: 2
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