



# programación creativa | 2013

## ACM-UCLA Programación Creativa 2013 Maratón Local

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*(These were the problems G and J of the main problem-set until I realized I completely forgot the warm-up session. The contest session had too many problems anyway.)*

### ***Warm-up session***

*This problem-set contains 2 problems; the pages are numbered from 1 to 2.*



# Problem G

## Going Nowhere

Filename: `going.c`, `going.cpp` or `going.java`

You must read from standard input and print to standard output.

This is the problem, you got a date for next year, and you wrote it down in paper but you forgot the slashes that separate the values, so you got 1122014. Is that 11/2 or 1/12? From that situation this problem came up.

*Given a range of dates, how many different pairs of dates in the range are ambiguous?*

Let's consider a pair of dates  $(A, B)$  as ambiguous when  $A$  and  $B$  can be written down in the format `dmyyyy`, and both are equivalent. For example, the pair  $(11/2/2014, 1/12/2014)$  is ambiguous.

Also, take note that we are using the Gregorian calendar, which includes leap years. A year is a leap year when the year number is divisible by 4, but not by 100, except those that are divisible by 400, those are always leap years.

### Input

The input consists of  $T$  ( $T \leq 20$ ) in the first line, the number of test cases, then  $T$  lines follows, each with two dates, in the format of six integers  $d_1, m_1, y_1$  for the first date, and  $d_2, m_2, y_2$  for the second one, which represent the limits of the range to process, inclusive. Both are valid dates in the years 1600 and 20000, inclusive.

### Output

For each case print one line with the number of ambiguous pairs of dates in the given range. See the sample output for the format.

#### Sample input

```
1 2
2 1 1 2014 31 12 2014
3 11 2 2014 11 2 2014
4
```

#### Sample output

```
1 Case 1: 5
2 Case 2: 0
3
```



# Problem J

## JJ and his Chemical Problem

Filename: `jj.c`, `jj.cpp` or `jj.java`

You must read from standard input and print to standard output.

Meet JJ, the pyromaniac guy who also gets to be our best client. See, we provide him with materials for his “experiments,” and we get, well, money, a lot of money. Right now JJ has a problem, lately there have been difficulty for getting the usual materials from the market, and because of that he has been experimenting with different supplies. You don’t need to know the details so let’s call these materials X, Y and Z. We also call the amount of each material as  $a_x$ ,  $a_y$  and  $a_z$ , we can say that the material is safe if,

$$|a_x + 2a_y - a_z| < 5$$

Right now he is working with some building I don’t know where, I don’t know how big, but we need to make sure that he gets the correct amount of each material so he won’t get hurt. He is a very good client.

### Input

The input consists of  $T$  ( $T \leq 20$ ) in the first line, the number of test cases, then  $T$  lines follows, each with three integers  $a_x$ ,  $a_y$  and  $a_z$ , where  $0 \leq a_x, a_y, a_z \leq 100$ .

### Output

For each case print one line with the string “SAFE” if the amount of the materials is safe, or “DANGER” if not. Follow format of the sample output.

#### Sample input

```
1 2
2 4 3 8
3 1 20 5
4
```

#### Sample output

```
1 Case 1: SAFE
2 Case 2: DANGER
3
```