

# Winning at Sports

In the game of *Sports*, the object is have more points than the other team after a certain amount of time has elapsed. Scores are denoted by two hyphen-separated integers. For example, scores may include 3-2, 4-1, or 10-0. The first number is how many points you've scored, and the second is the number of points scored by the opposing team. You're very good at *Sports*, and consequently you always win. However, you don't always achieve victory the same way every time.

The two most extreme kinds of victory are called **stress-free** and **stressful**. In a **stress-free** victory, you score the first point and from then on you always have more points than your opponent. In a **stressful** victory, you never have more points than your opponent until after their score is equal to their final score.

Given the final score of a game of *Sports*, how many ways could you arrange the order in which the points are scored such that you secure a **stress-free** or **stressful** win?

## Input

Input begins with an integer **T**, the number of games you'll play. For each game, there is one line containing the final score of the game in the format described above.

## Output

For the *i*th game, print a line containing "Case #*i*: " followed by two space-separated integers, the number of ways you can achieve a **stress-free** or **stressful** win, respectively. Since these numbers may be very large, output them modulo 1,000,000,007.

## Constraints

$$1 \leq T \leq 100$$

Since you always win, the first number in any final score will always be larger than the second. Both scores will be non-negative integers not exceeding 2000.

## Explanation of Sample

In the third test case, you can get a stress-free win by scoring points 1, 2, and 4, or points 1, 2, and 3. You can get a stressful win by scoring points 2, 4, and 5, or points 3, 4, and 5.

### Sample Input

```
5
2-1
3-1
3-2
10-5
1000-500
```

### Sample Output

Case #1: 1 1

Case #2: 2 1

Case #3: 2 2

Case #4: 1001 42

Case #5: 70047606 591137401



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