

Problem 4—NASCAR SMS

Professor Plum's least favorite sport is NASCAR, but he really likes the upcoming Daytona 500. Watching the cars go around the track gives him a headache, but fortunately his cellphone provider offers an SMS-based race update feature. Just before the start of the race, he receives a text message containing the starting lineup by (nonnegative integers) car number. During the race, he will receive a text message each time one car passes another car.

From this information, he wants you to write a program to determine 1st, 2nd, and 3rd place winners.

Input Format

The first line contains a positive integer n specifying the number of cars in the race. The next n lines contains the starting lineup. The remaining lines contain pairs of car numbers with the first car number passing the second car number. At the end of the file, the pair -1 -1 denotes the end of the race.

Output Format

The output consists of three lines: the first line is "First Place: " followed by the car number finishing in first place, the second line is "Second Place: " followed by the car number finishing in second place, and the third line is "Third Place: " followed by the car number finishing in third place. (Note: a single space follows the colon)

Input Sample

```
4
32
15
1
17
15 32
1 32
1 15
17 32
15 1
32 17
-1 -1
```

Output Sample

```
First Place: 15
Second Place: 1
Third Place: 32
```