

Problem 5: i trusted you

6 Point(s)

Problem ID: amogus

Rank: 2

Introduction

Happy dated reference day! Today we'll be talking about the hit 2020 deception game Among Us, the family-friendly multiplayer game in which you must complete fun tasks with your crewmates before time runs out—but beware, there are imposters among us!!! You and your friend are both imposters, so you must work together in order to deceive your “friends” and win the game. Be careful; if either of you draws too much attention (I'm not saying the word), you might get voted out of the game! Thanks to good old-fashioned election fraud, however, you've gotten a sneak peak at everybody's else's votes.

Problem Statement

Your task is to create a program that will output you and your teammate's votes (imposters) given the votes of N other players (crewmates). Each player is identified using a number counting upwards from 1; you and your partner are assigned player numbers $N + 1$ and $N + 2$, respectively. The i th player's vote S_i will denote the number of the player they want eliminated.

For each test case, your program should output you and your teammate's votes according to the following criteria:

- If either imposter currently holds the most votes (without tying with any crewmate), you should both vote for the crewmate with the next most votes
 - However, if an imposter is guaranteed to hold the most votes (without tying with any other crewmate), you should both vote `SKIP`
- Otherwise, if any imposter is tied for the most votes with any crewmate, you should vote for the crewmate, and your teammate `SKIP` (regardless of who's tied with the crewmate)
- Otherwise, you should both vote for the crewmate with the least votes
- If multiple players are tied for any criteria, vote for the player with the lowest player number

Input Format

The first line of the input will contain a positive integer T denoting the number of test cases that follow. Each test case will have the following input:

- A first line containing the single positive integer N denoting the number of other players (crewmates) present in the game.
- A second line containing the space-separated sequence of N positive integers $S_{1..N}$, denoting the player number voted for by each player.
- A blank line separating individual test cases.

Output Format

Your output should be created in the following format:

- A single line containing your vote and your teammate's vote, separated by a space. A vote is represented by the player's number, or the word `SKIP`

Problem Constraints

$$1 \leq T \leq 100$$

$$1 \leq N \leq 1000$$

Sample Test Cases

Sample Input

```
4
5
6 1 6 6 6

3
5 1 2

7
2 9 8 8 9 9 8

4
2 1 2 2
```

Sample Output

```
SKIP SKIP
1 SKIP
2 2
3 3
```

Sample Explanations

For Test Case #1:

You (Player 6) are guaranteed to lose, so both you and your teammate should vote `SKIP`

For Test Case #2:

Your partner (Player 5), Player 1, and Player 2 are tied for the most votes, so you should vote for Player 1 while your partner votes `SKIP`

For Test Case #3:

You (Player 8) and your partner (Player 9) are tied for the most votes, but you can create a tie by both voting for Player 2.

For Test Case #4:

Player 2 currently has the most votes, so you vote for Player 3 (since both Player 3 and Player 4 have no votes).