Task 3

Card Game

Task

Consider the following card game played by two players.

- $2n$ cards with the different integer values from 1 to $2n$ written on them are used. n is an integer between 1 and 100, inclusive.
- n cards are dealt out to each player.
- Each player either plays out one card or passes in turn according to the following rules.
  - The first player begins by playing any card.
  - After that, a player may play any card whose value is greater than the value of the last card played.
  - A player must play a card if possible.
  - If a player cannot play any card, he/she passes. In this case all the played cards are gathered up and put aside, and the player who played last starts again by playing any card.
- The game ends when one of the players has played out all the cards in his/her hand.
- Each player gains points equal to the number of cards remaining in the opponent's hand.

Taro and Hanako are about to play this game. Taro begins the game by playing the first card. Both players will always play the playable card with the minimum value.

Write a program which, given the cards dealt to Taro, computes Taro's and Hanako's scores.

Input

Each input file consists of $n + 1$ lines. Line 1 contains an integer n. Each line from line 2 to line $n + 1$ contains one integer which is the value of a card dealt to Taro.

Output

Each output file to submit consists of two lines. Line 1 contains Taro's score and line 2 contains Hanako's score.

Sample inputs and outputs

Sample input 1

```
5
1
7
9
6
10
```

Sample input 2

```
10
8
7
14
18
4
11
3
17
5
19
```

Sample output 1

```
3
0
```

Sample output 2

```
2
0
```