Earn the points

Description

There are many stalls at the "summer garden party", and these stalls are lined up along the promenade. Xiao Zhang found that each stall has a commemorative card that can be purchased or sold by points, but the points of the card on each stall are different. Only one or zero cards can be purchased or sold in each stall. Due to limited time, Xiao Zhang can only walk from the beginning to the end, and cannot turn back. Xiao Zhang wants to know the maximum points he can earn by exchanging commemorative cards and the minimum number of operations(purchases and sales) to get the points.

(Note Xiao Zhang is very rich and he has infinite points at first. But he still wants to earn points.)

Input

A integer n on the first line, denoting the number of stalls.

n integers a_i on the second line, denoting the the points of the card on each stall.

- 10% cases, $n \leq 10$
- 50% cases, $n \leq 1e5$
- 100% cases, $n \leq 1e6, 1 \leq a_i \leq 1e5$

Output

Two integer with a space between them, denoting the maximum points he can earn and the minimum number of purchases and sales.

Sample Input 1

```
5
9 5 9 10 5
```

Sample Output 1

```
5 2
```

Sample Input 2

```
10
1 9 7 6 3 3 4 7 8 10
```

Sample Output 2

```
23 8
```
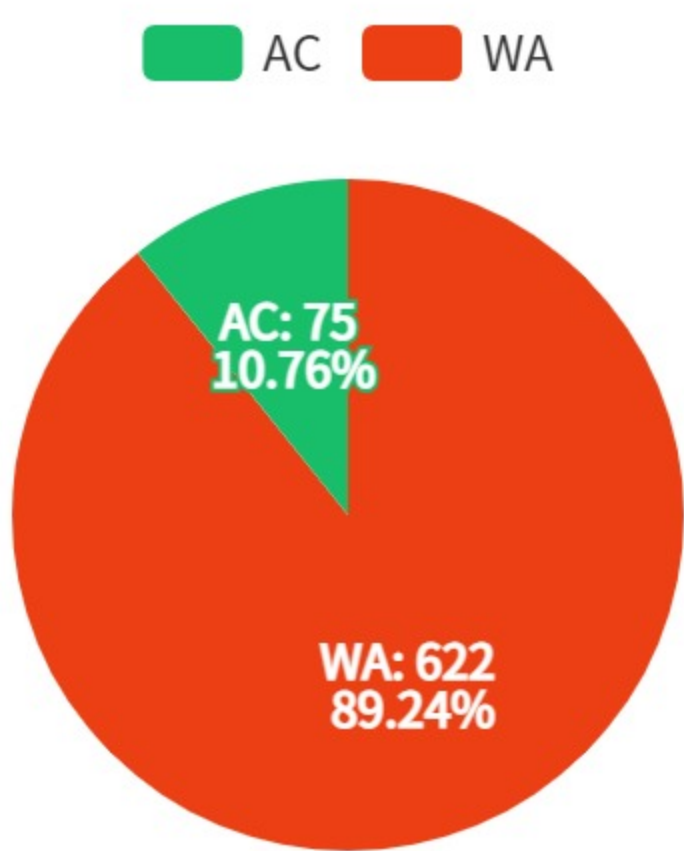
Sidebar

- Problems
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Information

ID	2002
Time Limit	1500MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	root
Level	Low
Score	100
Tags	Show

Statistic   Details

AC   WA

AC: 75 10.76%

WA: 622 89.24%

Editor

Language: C   Theme: Solarized Light

```
1
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Submit