ACM 寒訓 Day-1 題目

A. 字串替換

Time Limit: 1000MS

Description

編寫一個 C 程式實現將字串中的所有"you"替換成"we"

Input

輸入包含多行資料

每行資料是一個字串，長度不超過 1000

數據以 EOF 結束

Output

對於輸入的每一行，輸出替換後的字串

Sample Input

you are what you do

Sample Output

we are what we do

B. 眾數

Time Limit: 1000MS

Description

由檔給出 N 個 1 到 30000 間無序數正整數，其中 1≤N≤10000，同一個正整數可能會出現多次，出現次數最多的整數稱為眾數。求出它的眾數及它出現的次數。

Input

輸入檔第一行是正整數的個數 N，第二行開始為 N 個正整數。每兩個正整數之間用一個空格隔開。

Output

輸出檔有若干行（因為眾數可能不唯一）

每行兩個數（之間用 1 個空格隔開），第 1 個是眾數，第 2 個是眾數出現的次數。

若輸出超過一行，請以第 1 個數，由小而大排列。

Sample Input

12
2 4 2 3 2 5 3 7 2 3 4 3

Sample Output

2 4
3 4

C. Sequence Median
Time Limit: 1000MS

Description
Given a sequence of N nonnegative integers. Let's define the median of such sequence. If N is odd the median is the element with stands in the middle of the sequence after it is sorted. One may notice that in this case the median has position (N+1)/2 in sorted sequence if sequence elements are numbered starting with 1. If N is even then the median is the semi-sum of the two "middle" elements of sorted sequence. I.e. semi-sum of the elements in positions N/2 and (N/2)+1 of sorted sequence. But original sequence might be unsorted.

Your task is to write program to find the median of given sequence.

Input
The first line of input contains the only integer number N - the length of the sequence. Sequence itself follows in subsequent lines, one number in a line. The length of the sequence lies in the range from 1 to 250000. Each element of the sequence is a positive integer not greater than 2^32 - 1 inclusive.

Output
You should print the value of the median with exactly one digit after decimal point.

Sample Input
4
3
6
4
5

Sample Output
4.5

D. Frosh Week
Time Limit: 8000MS

Description
During Frosh Week, students play various fun games to get to know each other and compete against other teams. In one such game, all the frosh on a team stand in a line, and are then asked to arrange themselves according to some criterion, such as their height, their birth date, or their student num- ber. This rearrangement of the line must be accom- plished only by successively swapping pairs of consec- utive students. The team that nishes fastest wins. Thus, in order to win, you would like to minimize the number of swaps required.

Input
Input contains several test cases. For each test case, the rst line of input contains one positive integer n, the number of students on the team, which will be no more than one million. The following n lines each contain one integer, the student number of each student on the team. No student number will appear more than once.

Output
For each test case, output a line containing the minimum number of swaps required to arrange the students in increasing order by student number.

Sample Input
3
3
1
2

Sample Output
2

E. The Closest Pair Problem
Time Limit: 3000MS

Description
給你一些二維平面上的點的座標，請你告訴我其中 2 點間最近的距離是多少。

Input
輸入包含好幾組測試資料，每組的第 1 列有一個整數 N（0 <= N <=10000），代表此組測試資料共有幾個點。接下來的 N 列每列有 2 個數，分別代表代表某一個點的 x 和 y 座標。N=0 時代表輸入結束。座標的值均小於 40000 並且不會是負的數。

Output
對於每組測試資料，請輸出 2 點間最小的距離（輸出到小數點後 4 位）。如果任 2 點間的距離都不小於 10000，請輸出 INFINITY 。

Sample Input
```
3
0 0
10000 10000
20000 20000
5
0 2
6 67
43 71
39 107
189 140
0
```

Sample Output
```
INFINITY
36.2215
```