

# [程式實務] - Grade Sorting

Time: 2 sec / Memory: 256 MB

## Problem Statement

---

This is the second version of the problem. In Grade Sorting II, the only difference is that you are required to output the ranks of the students as unique integers based on the specified ranking rules, unlike Grade Sorting I, where you directly output the sorted scores of the students.

NCYU organized an entrance examination with five subjects:

"Chinese",  
"English",  
"Mathematics",  
"Science", and  
"Social Studies".

The score of each subject is an integer between 0 and 100.

To select outstanding candidates, for any two students, the following rules are applied to determine the relative rank of them.

為了要選出優秀的同學, NYCU 對所有同學進行排序,  
以下的規則被使用來決定 "任兩位同學" 之間的先後次序.

### 1. Exceptional Performance Priority:

If one has scores of 90 or above in all five subjects and the other doesn't, then the one that does is ranked higher for admission.

若其中之一每科都達到 90 分或更高, 而另外一個沒有,  
那麼每科都達到 90 分的人排在另外一個人前面.

### 2. Total Score Priority:

If rule 1 does not provide an ordering for them, then the student with the higher total score across all five subjects has a higher priority for admission.

若上述規則一無法決定兩者的先後次序,  
那麼總分較高的那個人可以排在另一個人前面.

### 3. Subject-wise Priority:

If the above conditions are insufficient to determine the ranking between the two students, then compare their scores sequentially in the following order: Chinese, English, Mathematics, Science, and Social Studies.

The student with the higher score in the first differing subject is given priority for admission.

若上述的規則仍無法決定兩位同學的先後次序,  
那麼依照以下的順序, 比較兩位同學各個科目的成績  
"國文", "英文", "數學", "科學", "社會科學".  
先在某科目勝出的同學可以排在前面.

This year, a total of  $n$  students are participating in the entrance examination. You are provided with each student's scores in all five subjects. Write a program to determine the priority ranking of each student based on the above rules.

## Input

---

$n$

Chinese<sub>1</sub> English<sub>1</sub> Mathematics<sub>1</sub> Science<sub>1</sub> SocialStudies<sub>1</sub>

Chinese<sub>2</sub> English<sub>2</sub> Mathematics<sub>2</sub> Science<sub>2</sub> SocialStudies<sub>2</sub>

...

Chinese <sub>$n$</sub>  English <sub>$n$</sub>  Mathematics <sub>$n$</sub>  Science <sub>$n$</sub>  SocialStudies <sub>$n$</sub>

## Output

---

Print the rank of each student in one single line, separated by spaces, i.e.,  $rank_1 rank_2 rank_3 \dots rank_n$ .

$rank_i$  stands for the priority ranking of the  $i$ -th student. It should be an unique integer between  $[1, n]$ , and a student with more priority should be given a lower rank.

## Constraints

---

$$1 \leq n \leq 10^5$$

$$0 \leq \text{Chinese}_i, \text{English}_i, \text{Mathematics}_i, \text{Science}_i, \text{SocialStudies}_i \leq 100$$

It is guaranteed that for any two students, there is at least one subject in which their scores differ.

## Example

---

Input:

```
4
91 100 100 97 89
90 91 90 90 90
92 100 100 96 89
90 90 92 90 90
```

Output:

```
4 2 3 1
```