The Other Red Meat?

Program Name: Goat.java **Input File:** goat.dat

A young farmer has N goats, but they produce a very small amount of milk. John cannot live on the milk they make, so he's planning to eat some of the 'worst' goats to stave off starvation. Each day, John chooses the goat that produces the LEAST amount of milk on that day and eats it. If there is more than one goat with minimal milk, John will be puzzled and will not eat that day.

The *i*-th goat has a cycle of production T_i. That means, if it produces L units of milk on one day, it will also produce L units after T_i days — if it isn't eaten first. Though John is not a clever man, he doubts the goats will all be eaten – but he asks for your help to be certain. Don't forget that he will offer you some nice cabrito for your work!

Input

The first line of the input contains a single integer *cases*, indicating the number of test cases ($1 \leq cases \leq 50$). Each test case begins with an integer N ($1 \leq N \leq 1000$), the number of goats. In the following N lines, each line contains an integer T_i ($1 \leq T_i \leq 10$), indicating the cycle of the *i*-th goat, then T_i integers M_j ($0 \leq M_j \leq 250$) follow, indicating the amount of milk it can produce on the *j*-th day.

Output

For each test case in the input, print a single line containing two integers C, D, indicating the number of goats that will NOT be eaten, and which day the last goat is eaten. If no goat is eaten, the second number should be 0.

Sample Input

```
1
4
4 7 1 2 9
1 2
2 7 1
1 2
```

Sample Output

```
2 6
```