Appetizer

Given n pairs of numbers of the form a,b find which pair has the highest a^b value. If more than one pair have the same value, print the pair which occurs first in the input.

Note: ^ indicates exponent, not XOR. Example, 2^3 = 8, 3^3=27

Input

Input starts with an integer T (<= 100), denoting the number of test cases.

Each case starts with a line containing an integer n (1 <= n <= 1000) which denotes the number of pairs.

Next n lines contain two numbers a,b each.

(1 <= a,b <= 1000000)

Output

For each test case, print two numbers, separated by a space, which indicates the answer for the corresponding test case.

The answer for each test case must be in a new line.

Example

Input:
4
3
1 1
2 2
3 3
5
10 5
5 5
2 3
3 3
3 10

1
7 7
2
9 9
2 2

Output:

3 3
10 5
7 7
9 9