COCI '09 Contest 1 #4 Mali

Time limit: 0.6s **Memory limit:** 32M

Mirko and Slavko are playing a new game. Again. Slavko starts each round by giving Mirko two numbers A and B, both smaller than 100. Mirko then has to solve the following task for Slavko: how to pair all given A numbers with all given B numbers so that the **maximal sum of such pairs is as small as possible**.

In other words, if during previous rounds Slavko gave numbers $a_1, a_2, \ldots, a_n$ and $b_1, b_2, \ldots, b_n$, determine n pairings (a_i, b_j) such that each number in A sequence is used in exactly one pairing, and each number in B sequence is used in exactly one pairing and the maximum of all sums $a_i + b_j$ is minimal.

Input Specification

The first line of input contains a single integer N $(1 \leq N \leq 10^5)$, number of rounds. The next N lines contain two integers A and B $(1 \leq A, B \leq 100)$, numbers given by Slavko in that round.

Output Specification

The output consists of N lines, one for each round. Each line should contain the smallest maximal sum for that round.

Sample Input 1

```
3
2 8
3 1
1 4
```

Sample Output 1

```
10
10
9
```

Sample Input 2

```
3
1 1
2 2
3 3
```

Sample Output 2

```
2
3
4
```