

12923 The Island

After arriving at an island, the n survivors of the zombie apocalypse must work together to establish a base-center. There are n weapons and every survivor has more or less ability with each one. Your mission is to find a way to assign optimally the arsenal to the team.

Input

The input consists of several test cases. Each test case starts with a line that contains one integer n ($1 \leq n \leq 100$). The following n lines will contain n integers, say q_{ij} ($0 \leq q_{ij} \leq 1000$). Line number i will specify the ability of the survivor number i using each weapon j .

Output

For each test case print on a single line the maximum ability that can be obtained, when the weapons are optimally assigned.

Sample Input

```
5
1 2 7 3 0
3 4 1 0 2
2 3 6 0 0
0 6 1 1 0
2 0 0 4 5
2
1 3
5 9
2
1 6
5 9
```

Sample Output

```
23
10
11
```