



Problem H. The Island

Input: Standard

Output: Standard

Author(s): Brian Giraldo Echeverri - UCO - Colombia

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.

Example

Input	Output
5	23
1 2 7 3 0	10
3 4 1 0 2	11
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	