Problem F. F

Time limit	1000 ms
Mem limit	131072 kB
OS	Linux

For a given weighted graph $G = (V, E)$, find the minimum spanning tree (MST) of G and print total weight of edges belong to the MST.

Input

In the first line, an integer n denoting the number of vertices in G is given. In the following n lines, a $n \times n$ adjacency matrix A which represents G is given. a_{ij} denotes the weight of edge connecting vertex i and vertex j. If there is no edge between i and j, a_{ij} is given by -1.

Output

Print the total weight of the minimum spanning tree of G.

Constraints

- $1 \leq n \leq 100$
- $0 \leq a_{ij} \leq 2,000$ (if $a_{ij} \neq -1$)
- $a_{ij} = a_{ji}$
- G is a connected graph

Sample Input 1

```
5
 -1 2 3 1 -1
 2 -1 -1 4 -1
 3 -1 -1 1 1
 1 4 1 -1 3
 -1 -1 1 3 -1
```

Sample Output 1

```
5
```

Reference

Introduction to Algorithms, Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. The MIT Press.