Maximum cost of a path (2) P70102_en

Given a directed and complete graph with n vertices, compute the maximum cost of all the paths with the vertices in increasing order. The given graph is represented by an $n \times n$ matrix M, where for every pair (i, j) with $i \neq j$, m_{ij} is the (perhaps negative) cost of the arc from i to j.

For instance, the maximum cost of the first test is 100, because of the path $0 \to 1 \to 3 \to 4$, with cost $20 - 10 + 90 = 100$.

Input

Input consists of the number of vertices n, followed by the matrix M (n lines, each one with n integer numbers), followed by the initial vertex x. Vertices are numbered from 0 to $n - 1$. You can assume $1 \leq n \leq 10^3$, that the diagonal has only zeros, and that the rest of numbers are between -10^6 and 10^6.

Output

Print the maximum cost of all the paths with the vertices in increasing order.

Sample input 1

```
6
 0  20   5  -3  80  -2
11   0  30 -10 -12   3
22 -10   0 -50  15  -5
23 -60  35   0  90   7
97  14 -70 -11   0 -11
 1   2   3   4   5   0
```

Sample output 1

```
100
```

Sample input 2

```
1
0
```

Sample output 2

```
0
```

Sample input 3

```
3
 0 -6  8
-4  0  9
-7 -2  0
```

Sample output 3

```
9
```

Problem information

Author: Salvador Roura
Translator: Salvador Roura

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