# Project Euler #83: Path sum: four ways

### Problem Statement

This problem is a programming version of Problem 83 from projecteuler.net

In the $5 \times 5$ matrix below, the minimal path sum from the top left to the bottom right, by moving left, right, up, and down, is indicated in bold red and is equal to $2297$.

$$\begin{pmatrix} 131 & 673 & 234 & 103 & 18 \\ 201 & 96 & 342 & 965 & 150 \\ 630 & 803 & 746 & 422 & 111 \\ 537 & 699 & 497 & 121 & 956 \\ 805 & 732 & 524 & 37 & 331 \end{pmatrix}$$

Find the minimum path sum in given matrix.

### Input Format

Each testcase begins with an integer $N$ followed by $N$ lines containing the description of the matrix.

### Constraints

$1 \leq N \leq 700$

$1 \leq values\ of\ elements\ in\ matrix \leq 10^9$

### Output Format

A single line for each testcase containing the value of the minimal path sum.

### Sample Input

```
5
131 673 234 103 18
201 96 342 965 150
630 803 746 422 111
537 699 497 121 956
805 732 524 37 331
```

### Sample Output

```
2297
```