

Problem D

Maximum Sum Path 2

Time limit: 1 second

Memory limit: 2048 megabytes

Problem Description

You have been given a grid with dimensions $n \times m$, where each cell at coordinates (i, j) contains a number $a_{i,j}$, which may be positive, negative, or zero. Your journey begins at cell $(1, 1)$, and your destination is cell (n, m) . You begin with 0 points.

At each step in your journey from any cell (i, j) , you have two choices for your next move:

- Move to cell $(i, j + 1)$, earning $a_{i,j+1}$ points.
- Move to cell $(i + 1, j)$, earning $a_{i+1,j}$ points.

During your journey, you have the flexibility to select some cells in advance. These cells are called *skipped cells*. Upon reaching a skipped cell, your earned points remain unaffected. You're allowed to pre-select at most k skipped cells.

Your objective is to determine the maximum number of points you can accumulate upon reaching cell (n, m) .

Input Format

The first line of the input contains three integers n , m and k . The i -th of the following n lines contains m integers $a_{i,1}, \dots, a_{i,m}$, where $a_{i,j}$ denotes the number in the cell at coordinates (i, j) .

Output Format

Determine the maximum number of points you can accumulate when you reach cell (n, m) .

Technical Specification

- $1 \leq n, m \leq 200$
- $0 \leq k \leq 200$
- $-10^5 \leq a_{i,j} \leq 10^5$ for $i = 1, 2, \dots, n$ and $j = 1, 2, \dots, m$

Scoring

1. (4 points) $n = 1$
2. (7 points) $k = 0$
3. (4 points) No additional constraints.

Sample Input 1

```
3 3 0
1 100 3
-200 -200 -23
-1000 4 5
```

Sample Output 1

```
85
```

Sample Input 2

```
3 3 2
1 100 3
-200 -200 -23
-1000 4 5
```

Sample Output 2

```
109
```

Sample Input 3

```
4 5 5
-1 -2 -35 -4 -5
-10 -9 -8 -7 -6
-2 -23 -39 -42 -76
-29 -1 -3 -10 -11
```

Sample Output 3

```
-3
```