DMOPC '15 Contest 1 P5 - Lelei and Dragon Scales

Lelei is surveying a large field made up of W imes H cells.

A large battle involving dragons has taken place here, and as such there are scales from dragons strewn all about the field. As dragon scales are extremely valuable and fetch a high price, Lelei would like to collect as many as possible. However, a battlefield is a pretty dangerous place to be, so she can only risk spending enough time on it to pick up the scales in a rectangular subsection of the field with a total area $\bf up$ to N.

Given the distribution of scales on the field and the maximum N that Lelei has time for, can you help her determine how many scales she'll end up with if she chooses an optimal section of the field?

Constraints

Subtask 1 [10%]

 $1 \le W, H \le 20$

Subtask 2 [15%]

 $1 \le W, H \le 50$

Subtask 3 [25%]

 $1 \le W, H \le 100$

Subtask 4 [50%]

 $1 \le W, H \le 250$

Input Specification

The first line of input will contain 3 space-separated integers W, H, and N ($N \le W \times H$). The next H lines of input will each contain W space-separated integers in the range [0, 100].

Output Specification

A single integer, the maximum number of scales that Lelei can pick up.

Sample Input 1

```
5 5 4

0 0 0 0 10

0 5 0 1 2

2 0 3 7 1

8 9 0 1 3

1 5 2 3 7
```

Sample Output 1

23

Explanation

Lelei should explore the 2×2 bottom-left corner of the field, which would allow her to collect 8+9+1+5=23 scales.

Sample Input 2

1 2 1 0 5

Sample Output 2

5

Explanation

Lelei only has time for ${\bf 1}$ cell, so she should choose the one with ${\bf 5}$ scales.