CodeVita
The TCS Global Coding Contest

Shivansh Kumar

05 Hr 58 Min 16 Sec

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A B C D E F

ONLINE EDITOR (E)

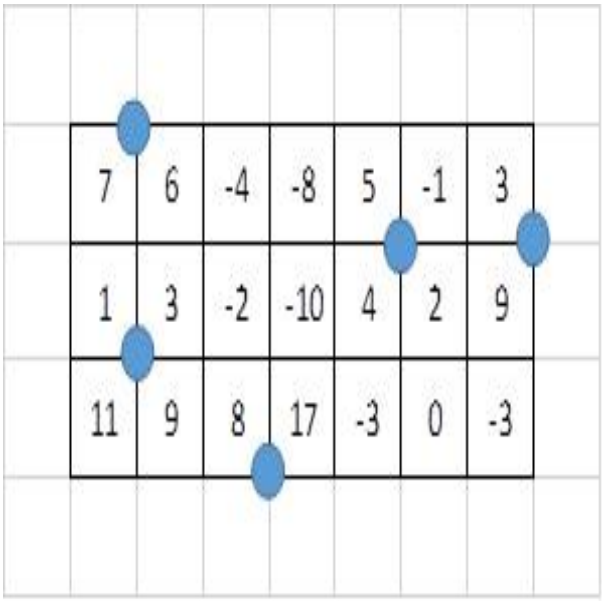
Game of Jumps

Problem Description

This game is played on a rectangular board, which is divided into M x N squares (M rows and N columns). The original game was a challenge set by one mathematician to another, and involved writing numbers, and jumping markers.

In a modern variation, you are given an arbitrary number of counters. Numbers (positive and negative) are present on the squares. You may place a counter on a corner where four or less squares meet. When you place a counter there, you are deemed to have "visited" all the squares that meet there, and "win" the sum of the numbers in those squares. Other counters can be placed, but no square can be visited by more than one counter. The objective is to "win" the maximum total possible without visiting any square with more than one counter.

For Example, in the 3 x 5 board, the total is 84



Constraints

M, N<=20

Input Format

The first line contains the number of rows (M) and the number of columns (N) in comma separated form.

The next M lines have N integers each in a comma separated format. These give the values in the squares in the corresponding row. Note that these may be negative.

Output

The maximum amount in the squares that can be legally visited.

Explanation

Example 1

Input

3,7
7,6,-4,-8,5,-1,3
1,3,-2,-10,4,2,9
11,9,8,17,-3,0,-3
Output
84

Explanation

There are 3 rows, and 7 columns. The counters may be placed at the corners as shown in the diagram above, and a total of 84 “won”. The output is 84.

Example 2

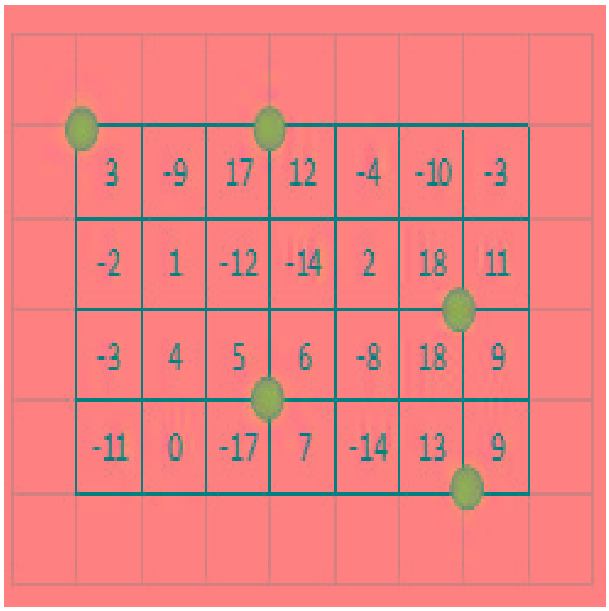
Input

4,7
3,-9,17,12,-4,-10,-3
-2,1,-12,-14,2,18,11
-3,4,5,6,-8,18,9

-11,0,-17,7,-14,13,9
Output
111

Explanation

There are 4 rows and 7 columns. The numbers in the squares are as shown. The optimal selection of corners is as given in this figure. The total amount won is 111. Hence the output is 111.



Upload Solution [Question : E]

☐ I, **shivansh kumar** confirm that the answer submitted is my own.

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