M03S02 [Pointers and Functions]: Exercise 07

CS110: Computing Lab
Department of CSE, IIT Guwahati
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M03S02E07: Mallya Collection

Mallya wants to setup a business in UK for which he needs some funds. For collecting the funds, he entered a bank-street which is represented as a matrix with each cell representing a bank. The positive integer inside the cell indicates the available amount of funds. While making a walk in the bank-street, if he receives a call from Modi, he can collect the funds from the banks that share a corner with the current cell location. If he receives a call from Sonia, he can collect the funds from the banks that share an edge (see Figure 1 for illustration) with the cells whose corner is shared with his current cell location.
This is as represented
0 i j: collect the integers from all the cells that share a corner with the cell (**i**, **j**); (left figure) in Figure 1; **0** represents Mallya received a call from Modi
1 i j: collect the integers from all the cells that share an edge with the cells whose corner is shared with the (**i**, **j**); (right figure) in Figure 1; **1** represents Mallya received a call from Sonia

Write a program to help Mallya in estimating the total funds based on the phone call and his current location in bank-street

Input Format:
In the first line, dimension of the matrix is given
From the second line onwards, integers filling each row are given
In the last line, [**0 i j**] or [**1 i j**] is given

Output Format:
Display the total funds available

Constraints:

$$1 \leq \text{matrix row size}, \text{ matrix column size} \leq 20$$

NOTE: Student must use pointer(s) and function(s) to solve this exercise

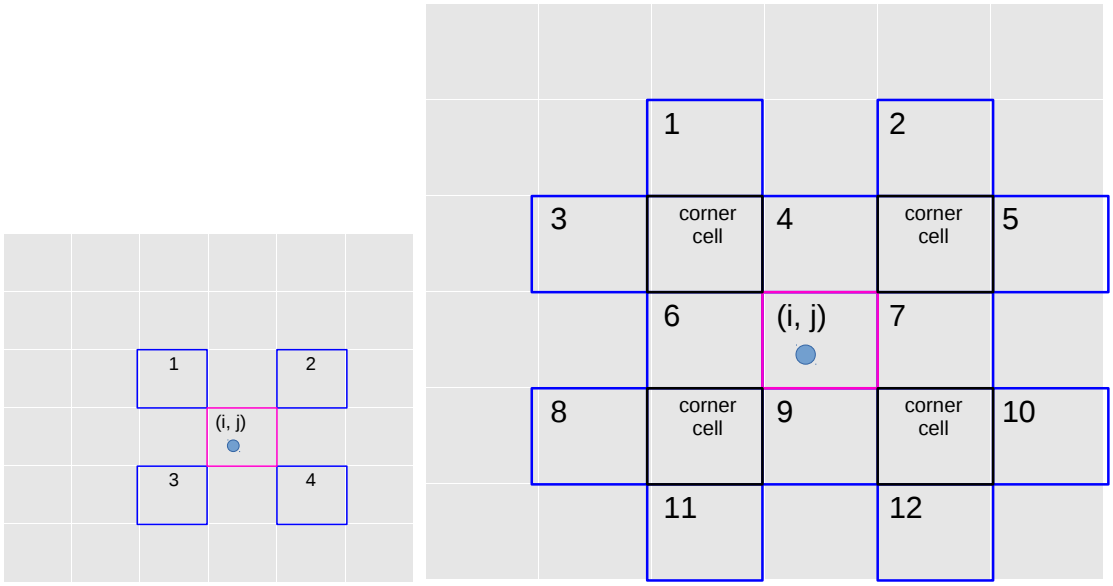

Figure 1: Funds will be collected from the banks marked with numerals for **0 i j** in left figure and for **1 i j** in right figure

Example 1:

Input:
3 3
1 2 3
4 5 6
7 8 9
0 1 1

Output:
20

Example 2:

Input:
5 5
1 2 3 4 5
6 7 8 9 1
2 3 4 5 6
7 8 9 1 2
3 4 5 6 7
1 2 2

Output:
57