

	<h2 style="margin: 0;">Problem A</h2> <h3 style="margin: 0;">Hills</h3>	<p>ACM-ICPC Thailand Mini Programming Contest Local Training 2016</p>   
---	---	---

The hill can be represented by an $n \times n$ matrix, M , where each element is a positive number representing the elevation above sea level. For each problem you want to travel from position (i,j) , M_{ij} , to (k,l) , M_{kl} . Where i and k refer to the row, while j and l refer to the column. You have to find the path such that there is the smallest total change of the elevation (the absolute values of the elevation changes at each step are added together). You cannot move diagonally.

For example, we have the 3×3 hill. If we want to go from $(1,1)$ to $(3,3)$, the path with the smallest number of change elevation is $(1,1)$ with value 14 \rightarrow $(2,1)$ with value 23 \rightarrow $(2,2)$ with value 22 \rightarrow $(2,3)$ with value 22 \rightarrow $(3,3)$ with value 12. The total change of elevation is 20.

Column \rightarrow

14	42	42
23	22	22
43	12	12

Input

First line contains an integer, T , representing the number of test cases. $1 \leq T \leq 20$

For each test case, there are $n+1$ lines of input. For the first line in each case contains 5 numbers: n , i , j , k , and l . Each of the following n lines contains n numbers. Each line represents a row of the matrix, and the n numbers it contains are the column entries for that row. $1 \leq n \leq 100$. The height is between 0 and 100.

Output

Answer in T lines. Each line contains the smallest total change of the elevation from position (i, j) to (k, l) .

Example

Input	Output
2	20
3 1 1 3 3	3
14 42 42	
23 22 22	
43 12 12	
2 2 1 1 2	
1 2	
3 5	