B. The Explorer

Time Limit: 1.0 Seconds Memory Limit: 65536K

An explorer must decide where to construct a way to arrive from a point A to point B. In order to help him, the explorer has made a map with the obstacles that exist. He drew into squares his map and he wants a way that passed through the smaller number of squares. The way only can go from a square to another one if they have a side in common, that is to say, cannot advance in diagonal, and it cannot happen through a square that contains an obstacle. Each square of the map is identified by its coordinates, column and row. The columns are numbered of left to right initiating with the 0. The rows are numbered from top to down initiating with the 0.

Input

There will be multiple input sets. The first line contains the incoming number of input to evaluate. Each input will be formed of the following way: first, a line containing two integer numbers, N and M, separated by spaces, indicate the number of columns and lines, where $1 \leq N, M \leq 100$. In each one of the following M lines there is N numbers, separated by spaces, that can be 0 or 1, 0 if there is not obstacle in corresponding square and 1 if there is it. In the penultimate line the column and row of point A. In the last line the column and row of point B. All the cases of test will have at least a way to arrive from A to B.

Output

The number of squares through which it passes a minimum way between A and B.

Sample Input

```
2
3 3
1 0 0
1 0 0
0 0 1
2 0
0 2
5 4
0 1 0 0 0
0 0 1 1 0
0 1 0 0 0
0 0 0 0 0
1 3
2 0
```

Sample Output

```
5
9
```

Source: Mexico and Central America 2006

Problem ID in problemset: 2560

Tianjin University Online Judge v1.2.4