D: Hill Climbing Bikers

The hills are alive with the sound of bikers hauling water in open containers from one location to another. The containers are clamped flat (horizontal if the ground underneath is flat). Acceleration as a cause of water sloshing and spilling is negligible to what is lost by going up and down steep slopes. Your task is to determine the smallest maximum slope of any path that connects the two locations. Consider only rectilinear paths (no diagonal travel). Following such a path should minimize the loss of water.

Input

Input may consist of multiple cases. Each case begins on a new line with a value representing the number of elevation measurements on a side of a square area containing various hills and valleys to be traversed. This will be no more than 100. Following this on the same line are the row and column (1 indexing) of the start and end positions of the trip. The next lines contain the elevations (all integers), row by row, at each grid point. The end of input is indicated by the values 0 0 0 0 0 on a new line. Arbitrary white space may be used to delimit the input.

Output

For each case, display the case number followed by the slope with the smallest maximum absolute value for any path from start to end, formatted as in the sample. Slope is measured as the difference in elevations between two adjacent grid points (north-south or east-west, but not diagonal.) If the slope is ambiguous (e.g. both 5 and -5 yield 5 as the absolute value), use the positive slope.

Sample Input

```
5   1 1   5 5
100 20   50   49  5
42  62   42  12  -65
  25  61  150  42  -34
52  100  93  41   -4
89  120  51  15  24
0  0   0  0    0
```

Sample Output

```
Case 1: -58
```