

# Connected Cell in a Grid

## Problem Statement

You are given a matrix with  $m$  rows and  $n$  columns of cells, each of which contains either 1 or 0. Two cells are said to be *connected* if they are adjacent to each other horizontally, vertically, or diagonally. The connected and filled (i.e. cells that contain a 1) cells form a *region*. There may be several regions in the matrix. Find the number of cells in the largest region in the matrix.

## Input Format

There will be three parts of the input:

The first line will contain  $m$ , the number of rows in the matrix.

The second line will contain  $n$ , the number of columns in the matrix.

This will be followed by the matrix grid: the list of numbers that make up the matrix.

## Output Format

Print the length of the largest region in the given matrix.

## Constraints

$$0 < m < 10$$

$$0 < n < 10$$

## Sample Input:

```
4
4
1 1 0 0
0 1 1 0
0 0 1 0
1 0 0 0
```

## Sample Output:

```
5
```

## Task:

Write the complete program to find the number of cells in the largest region.

## Explanation

```
X X 0 0
0 X X 0
0 0 X 0
1 0 0 0
```

The **X** characters indicate the largest connected component, as per the given definition. There are five cells in this component.