Amazon

Given a 2–d matrix , which has only 1’s and 0’s in it. Find the total number of connected sets in that matrix.

Explanation:
Connected set can be defined as group of cell(s) which has 1 mentioned on it and have at least one other cell in that set with which they share the neighbor relationship. A cell with 1 in it and no surrounding neighbor having 1 in it can be considered as a set with one cell in it. Neighbors can be defined as all the cells adjacent to the given cell in 8 possible directions (i.e N , W , E , S , NE , NW , SE , SW direction). A cell is not a neighbor of itself.

Input format :

First line of the input contains T , number of test-cases.
Then follow T testcases. Each testcase has given format.
N [representing the dimension of the matrix N X N].
Followed by N lines , with N numbers on each line.

Ouput format :

For each test case print one line , number of connected component it has.

Sample Input :

4
4
0 0 1 0
1 0 1 0

0 1 0 0
1 1 1 1
4
1 0 0 1
0 0 0 0
0 1 1 0
1 0 0 1
5
1 0 0 1 1
0 0 1 0 0
0 0 0 0 0
1 1 1 1 1
0 0 0 0 0
8
0 0 1 0 0 1 0 0
1 0 0 0 0 0 0 1
0 0 1 0 0 1 0 1
0 1 0 0 0 1 0 0
1 0 0 0 0 0 0 0
0 0 1 1 0 1 1 0
1 0 1 1 0 1 1 0
0 0 0 0 0 0 0 0

Sample output :

1
3
3
9

Constraint :

0 < T < 6
0 < N < 1009

Download sample testcases as zip

click here to see sample code snippet
Pick your language
More

Haskell

Clojure

Scala

Erlang

CLISP

Lua

Go

C C++ Java C# PHP Ruby Python Perl

1

Keyboard Shortcuts Available

Use custom testcase as input for Compile & Test

Compile & Test Submit Code

Upload File

```
/* Enter your code here. Read input from STDIN. Print output to STDOUT */
```