





PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

E. The Lakes

time limit per test: 3 seconds memory limit per test: 256 megabytes

You are given an $n \times m$ grid a of non-negative integers. The value $a_{i,j}$ represents the depth of water at the i-th row and j-th column.

A lake is a set of cells such that:

- each cell in the set has $a_{i,j}>0$, and
- there exists a path between any pair of cells in the lake by going up, down, left, or right a number of times
 and without stepping on a cell with a_{i,j} = 0.

The volume of a lake is the sum of depths of all the cells in the lake.

Find the largest volume of a lake in the grid.

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — the number of test cases.

The first line of each test case contains two integers n, m ($1 \le n, m \le 1000$) — the number of rows and columns of the grid, respectively.

Then n lines follow each with m integers $a_{i,j}$ ($0 \le a_{i,j} \le 1000$) — the depth of the water at each cell.

It is guaranteed that the sum of $n \cdot m$ over all test cases does not exceed 10^6 .

Output

For each test case, output a single integer — the largest volume of a lake in the grid.

Example



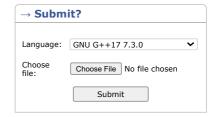


→ Virtual participation

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest



→ Last submissions		
Submission	Time	Verdict
<u>315248616</u>	Apr/13/2025 10:11	Accepted
315248190	Apr/13/2025 10:07	Wrong answer on test 2
315247762	Apr/13/2025 10:03	Wrong answer on test 2





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