



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP 0

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

C. How Many Squares?

time limit per test: 2 seconds memory limit per test: 64 megabytes

You are given a 0-1 rectangular matrix. What is the number of squares in it? A square is a solid square frame (border) with linewidth equal to 1. A square should be at least 2×2 . We are only interested in two types of squares:

- 1. squares with each side parallel to a side of the matrix;
- 2. squares with each side parallel to a diagonal of the matrix.

For example the following matrix contains only one square of the first type:

0000000

0111100

0100100

0100100

0111100

The following matrix contains only one square of the second type:

0000000

0010000

0101000

0010000 0000000

Regardless of type, a square must contain at least one 1 and can't touch (by side or corner) any foreign 1. Of course, the lengths of the sides of each square should be equal.

How many squares are in the given matrix?

Input

The first line contains integer t ($1 \le t \le 10000$), where t is the number of test cases in the input. Then test cases follow. Each case starts with a line containing integers *n* and *m* $(2 \le n, m \le 250)$, where *n* is the number of rows and *m* is the number of columns. The following n lines contain m characters each (0 or 1).

The total number of characters in all test cases doesn't exceed 10^6 for any input file.

Output

You should output exactly t lines, with the answer to the i-th test case on the i-th line.

Evamples

Examples		
input	Сору	
2		
8 8		
00010001		
00101000		
01000100		
10000010		
01000100		
00101000		
11010011		
11000011		
10 10		

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 11

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++23 14.2 (64 bit, ms ➤

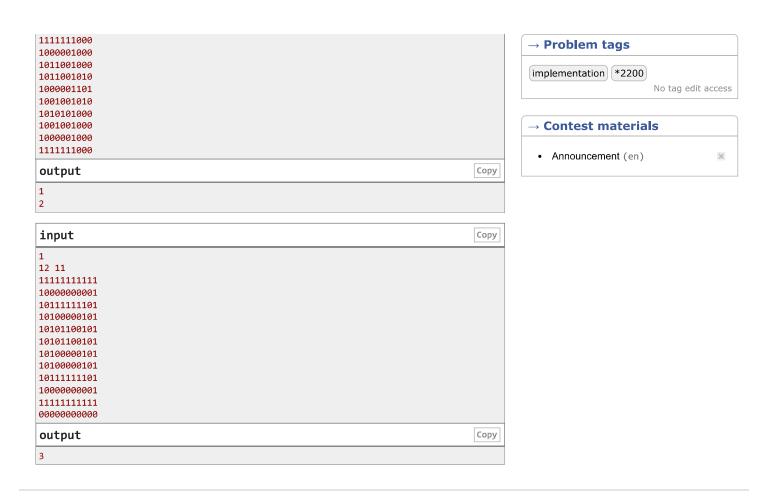
Choose file:

Choose File No file chosen

Submit

→ Last submissions

Submis	sion	Time	Verdict
325671	300	Jun/23/2025 13:46	Accepted



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