Subsquares in a matrix P77893_en

Examen extraordinari d'Informàtica, FME (2015-07-06)

Given an $n \times m$ matrix of numbers between 1 and 9, compute how many subsquares 3×3 it has with all the numbers between 1 and 9.

Input

Input consists of several cases. Every case begins with n and m, followed by an $n \times m$ matrix of integer numbers between 1 and 9. Suppose that n and m are between 3 and 100.

Output

For every matrix, print the number of subsquares 3×3 that have all the numbers between 1 and 9.

Sample input

```
3 4
1 2 3 4
5 6 7 8
9 8 4 8

3 3
1 1 1
1 1 1
1 1 1

4 4
1 2 3 7
4 5 6 4
7 8 9 1
1 2 3 7
```

Sample output

```
1
0
4
```

Problem information

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