

4867 Maximum Square

Given an $N \times M$ matrix of all '1's and '0's, find the largest submatrix which is a square containing all '1's.

Input

There will be several test cases in the input. Each test case will begin with two integers, N and M ($1 \leq N, M \leq 1,000$) indicating the number of rows and columns of the matrix. The next N lines will each contain M space-separated integers, guaranteed to be either '0' or '1'. The input will end with a line with two '0's.

Output

For each test case, print a single integer, indicating the width (and height) of the largest square of all '1's, or '0' if there are no '1's. Print no extra spaces, and do not print any blank lines between answers.

Sample Input

```
4 5
0 1 0 1 1
1 1 1 1 1
0 1 1 1 0
1 1 1 1 1
3 4
1 1 1 1
1 1 1 1
1 1 1 1
6 6
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0
```

Sample Output

```
3
3
0
```