
Number of different columns**X28503_en**

Write a program that given an integer matrix computes the number of different columns. Two columns of a matrix are different when they have different values on some position. The program must document, code and use at least the following two functions/actions:

1. An action (or function) to read a matrix from the input.
2. A function that given a matrix and two valid column indexes points out whether the columns referenced by the indexes are the same (position by position the two columns have the same values).

Exam score: 3.500000 **Automatic part:** 40.000000%

Input

The input is a sequence of cases. Each case consists of two integer numbers greater than zero m and n , which respectively denote the number of rows and columns, followed by a $m \times n$ matrix of integer numbers.

Output

For each case, a line with the number of different columns the matrix has.

Sample input

```
2 7
1 0 1 0 0 0 1
0 1 1 1 0 1 1

1 5
1 0 0 1 2

3 10
1 0 0 2 1 2 0 0 1 2
1 1 1 0 1 0 1 0 1 2
0 1 0 0 0 0 1 0 0 1
```

Sample output

```
4
3
6
```

Problem information

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