

6426 Count

You have:

- A matrix of natural numbers, with the property that all rows and all columns are sorted in ascending order (i.e. $A[i, j] \geq A[i - 1, j]$ and $A[i, j] \geq A[i, j - 1]$ for all i, j)
- One or several pairs of numbers (X, Y) with the property that $Y \geq X$.

For each (X, Y) pair, count how many numbers from the matrix are greater than or equal to X but smaller than or equal to Y .

Input

The input file is a binary file containing 32-bit integer numbers. The input file consists of:

- One integer N representing the number of rows (no more than 10000)
- One integer M representing the number of columns (no more than 10000)
- $N \times M$ integers, representing the values from the matrix, row by row
- An unspecified number of integers, representing the (X, Y) pairs, one pair at a time. There will be at least one pair and at most 100 pairs in the file — and there will not be an incomplete pair at the end of the file.

Output

For each pair you should write to standard output a value representing how many numbers in the matrix are greater than or equal to X but smaller than or equal to Y .

Note: The sample input is here in text form, not binary, for obvious reasons

Sample Input

```
2 4
1 5 10 10
2 10 20 99
```

```
10 99
2 9
100 1000
10 10
```

Sample Output

```
5
2
0
3
```