



**Problem C**  
*Count*

Input File: C.IN

Output File: standard output

Program Source File: C.C, C.CPP, C.JAVA

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  $Y$ .

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.

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  $Y$ .

Sample input (here in text form, not binary, for obvious reasons)	Sample output
2 4	5
1 5 10 10	2
2 10 20 99	0
	3
10 99	
2 9	
100 1000	
10 10	