

5094 THE MATRIX PROBLEM

You have been given a matrix $C_{N \times M}$, each element E of $C_{N \times M}$ is positive and no more than 1000, The problem is that if there exist N numbers a_1, a_2, \dots, a_N and M numbers b_1, b_2, \dots, b_M , which satisfies that each elements in row- i multiplied with a_i and each elements in column- j divided by b_j , after this operation every element in this matrix is between L and U , L indicates the lowerbound and U indicates the upperbound of these elements.

Input

There are several test cases. You should process to the end of file.

Each case includes two parts, in part 1, there are four integers in one line, N, M, L, U , indicating the matrix has N rows and M columns, L is the lowerbound and U is the upperbound ($1 \leq N, M \leq 400$, $1 \leq L \leq U \leq 10000$). In part 2, there are N lines, each line includes M integers, and they are the elements of the matrix.

Output

If there is a solution print 'YES', else print 'NO'.

Sample Input

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

Sample Output

```
YES
```