[uptriang1] Pbm-2: Permuting to Upper triangular Matrix [40]

Statement

[Problem #2, Marks 40] You are given an input integer square matrix A of size 'size'. You need to identify if there exists a permutation of the rows of A such that the resulting matrix is an upper triangular.

A matrix is upper triangular if all entries strictly below the main diagonal are zeroes. For example the matrix M1 given below is upper triangular.

166 839 0
0 658 0
0 0 703

The matrix M2 given below is not an upper triangular matrix.

0 0 703
166 839 0
0 658 0

But, there is a permutation of M2 that results in an upper triangular matrix (for example the permutation row-2, row-3, row-1 results in an upper triangular matrix).

Input and output formats:

Input: The first row contains the size of the square matrix. The following rows contain the entries of the matrix.

Example of input:
4
7 27 11 0
27 3 14 9
11 14 17 0
19 9 20 11
3
0 0 703
166 839 0
0 658 0

Output: If the answer is yes, then display the matrix in an upper triangular form. Here, one row per line and two consecutive entries are separated by single space character.

Example of output for the above input:
Not upper triangular
166 839 0
0 658 0
0 0 703

Kindly see public test case and follow the starting code.

Input Format

The first row contains the size of the square matrix
The following **"size"** number of rows contain the entries of the matrix. Carefully see the public test case.

Output Format

In the answer is yes, then display the matrix in the upper triangular form. Here, one row per line and two consecutive entries are separated by single space character. Otherwise print Not upper triangular. Carefully see the public test case.

Max. Score	10
Difficulty	2
Time limit	1.0 s
Memory limit	10240 KB
Submission limit	1000
Allowed file extensions	.c

Public test cases

Test Case 1

Input

Copy

```
3
0 0 703
166 839 0
0 658 0
4
0 0 216 0
0 0 0 269
753 0 325 716
0 719 0 131
2
1 0
0 0
4
0 0 0 1
1 0 0 0
0 0 1 0
```

Output

```
166 839 0
0 658 0
0 0 703
753 0 325 716
0 719 0 131
0 0 216 0
0 0 0 269
1 0
0 0
1 0 0 0
0 1 0 0
0 0 1 0
0 0 0 1
Not upper triangular
```

Copy

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Submit Solution for Pbm-2: Permuting to Upper triangular Matrix [40]

Submissions left: 993

Submissions Over!

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