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## Latin square

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A latin square of order  $n$  is a matrix  $n \times n$  such that in each row and column appears all the numbers between 1 and  $n$ . For instance,

$$\begin{pmatrix} 2 & 3 & 1 \\ 1 & 2 & 3 \\ 3 & 1 & 2 \end{pmatrix} \quad \text{and} \quad \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 1 & 4 & 3 \\ 3 & 4 & 1 & 2 \\ 4 & 3 & 2 & 1 \end{pmatrix}$$

are respectively latin squares of order 3 and 4.

Using the declarations

```
typedef vector<int> Row;  
typedef vector<Row> Square;
```

write a function

```
bool isLatin (const Square& q);
```

that prints if  $q$  is a latin square or not.

### Precondition

$q$  is not empty and really squared. All its numbers are natural.

### Observation

You only need to submit the required procedure; your main program will be ignored.

### Problem information

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