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The Virtual Learning Environment for Computer Programming

Min-Max Matrix

Given a square matrix M of $n \times n$ (with $n \ge 1$) of integers, its matrix minMax is the matrix mM of $n \times 2$ such that for all i (with $0 \le i < n$), mM[i][0] is the minimum element of the i-th row of M and mM[i][1] is the maximum element of the i-th column of M.

For instance, if M = [[1, 2, 3], [3, 1, 2], [2, 3, 1]], mM = [[1, 3], [1, 3], [1, 3]]

Implement the $min_Max(M)$ function that given the square matrix M returns its minMax matrix.

You can use the *min()* and *max()* functions of Python, that given a list, they return their minimum and maximum element respectively.

Sample session

```
>>> min_Max([[1,2,3],[3,1,2],[2,3,1]])
[[1, 3], [1, 3], [1, 3]]
>>> min_Max([[100]])
[[100, 100]]
>>> min_Max([[2,2],[2,2]])
[[2, 2], [2, 2]]
>>> min_Max([[17, 4],[1,1]])
[[4, 17], [1, 4]]
>>> min_Max([[5, 1, 2, 1, -2],[1,21,-1,-2,8],[2,3,1,6,6],[1,2,3,4,5]])
[[-2, 5], [-2, 21], [1, 3], [1, 6]]
```

Problem information

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