The Shamans Midgets Problem

Test 6 in the *ex_3_test_suite* solves the "Shamans Midgets Problem" using the MapReduceFramework library. The "Shamans Midgets Problem" is the following problem:

There is a 2-dimensional grid of size $N \times N$. On each cell in the grid stands a midget. Midgets are represented with their indices on the grid, e.g. the leftmost top midget is $(1, 1)$ and the rightmost bottom midget is (N, N). Each midget (x, y) has a height which is a natural number denoted by $h(x, y)$.

Definition. Row-King-Midget

A midget (x, y) is called a Row-King-Midget if he's the tallest midget in his row. Formally:
$\forall j \in [N] : h(x, y) \geq h(x, j)$

Note that there can be more than one Row-King-Midget in a single row.

Definition. Shaman-Midget

A midget (x, y) is called a Shaman-Midget if he's a Row-King-Midget and he's the tallest midget among all Row-King-Midgets in his column. Formally:

1. (x, y) is a Row-King-Midget

2. $\forall i \in [N]$ if (i, y) is a Row-King-Midget then $h(x, y) \geq h(i, y)$

Note that there can be more than one Shaman-Midget in a single column.

Given a 2-dimensional grid of size $N \times N$ of midgets and their heights, find all Shaman-Midgets in the grid.

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