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TM Conway's GOL Complexity Order
Team MPP

The bottleneck of this application is in draw-stuff.js, in the function draw_cells(rctx).
Within draw_cells(rctx) are two sub-functions: gather_cell_information() and update_all_cells().

Both sub-functions have double for loops in them, to iterate over every cell within the grid. Also, draw_cells(rctx) contains a double for loop at the beginning, to initialize all of the arrays and create the cell objects. The loop size is determined by the input height (n) and width (m) of the grid.
In this double for-loop, the following significant operations occur:

- Initialize n+m arrays: O(n)
- Create cell objects at every index of the 2D array: $O(n^2)$

By nature of dominating terms, this double for-loop is $O(n^2)$.

The rest of the function is dedicated to manipulating the TM head to move, read, and write new cell states. The TM head operations all run in O(1) time.

The overall time complexity of this application is $O(n^2)$.