

Dots Game

No Sequels

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Idea Description

We can keep each square as a node.

If there's a line drawn draw an edge connecting the two squares

If the degree is 4 the node gets allocated to the last player who put the edge

We keep a list to keep track of the order of insertion, so $[(n1,n2), (n3,n4)\dots]$

When a common edge is drawn, then we increase the outdegree of both the nodes

Implementation Details

$k \rightarrow$ number of players

$m \rightarrow$ number of rows

$n \rightarrow$ number of columns

- The first few bits store the values of m and n .
- Then next k bytes store the score for each player.
- The next $m*n*2$ bits store the out-degree of each node. Since the max outdegree can be 4, we need to have only 2 bits per node
- The next bits capture the moves as a pair of node numbers

To restore the state of the game, we can either retrace the moves or if we want the scores, we can directly get it from storage without computation.