

Conway's Game of Life

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Introduction

Algorithm

Input

- Square binary grid OR grid size (for random grid)
- Number of evolution timesteps
- Save interval
- Number of MPI ranks
- Number of OpenMP threads
- IF POSSIBLE: number of neighbours determining the rules?
- **SJS: fraction of live cells in random initialization**

Output

- Grid at fixed intervals determined by Input
- Some kind of report

Implementation

I did make extensive use of chatGPT, but only to ask specific questions on how to do something (similar to looking something up on Stack Overflow).

Structure

The grid at all times consists of binary integers.

To decide on: data structure to save the grid, domain decomposition

Hard parts: counting live neighbours

Profiling

Optimisation

Separable 2D convolution

Conclusion