

**PROJECT REPORT**

**Parallel Sudoku Solver**

Course:

* Parallel & Distributed Computing.

Instructor:

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Group Members:

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Objective:

Parallel programming using OpenMP for Parallel and Distributed Computing course. For this purpose, we have developed a serial and a parallel implementation of a solving a Sudoku efficiently in less time.

Methodology:

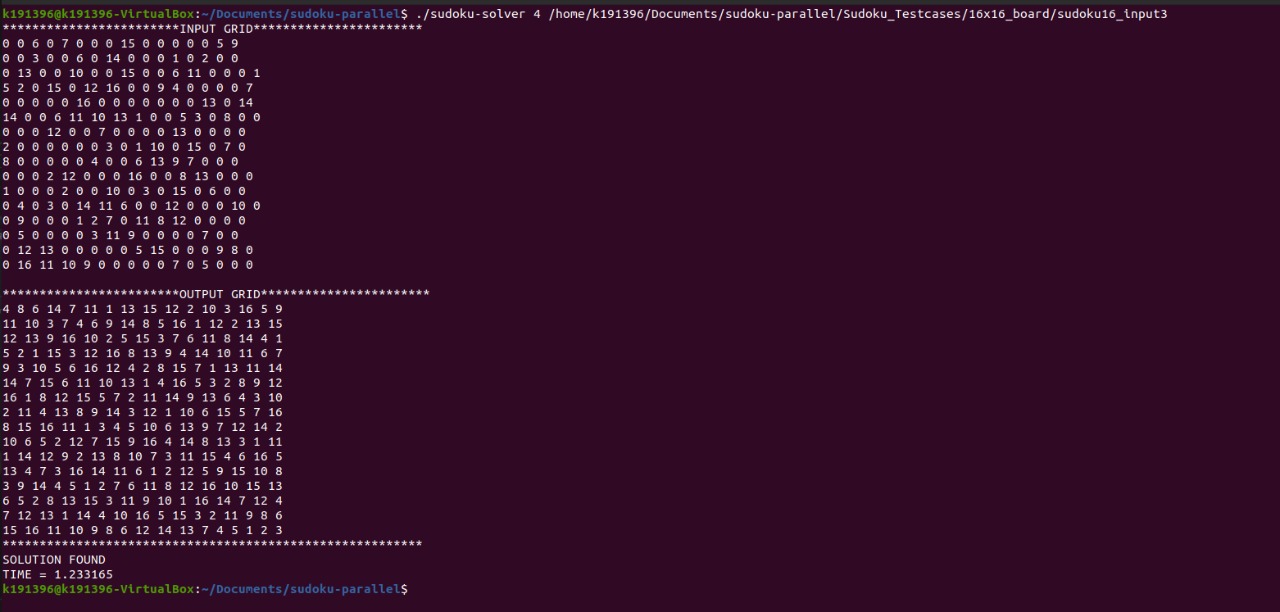
The grid consists of a matrix of size n x n which is partially filled and the algorithm fills the matrix cells which are blank with values from 1 to n in such a way that no value is repeated more than once on each of n columns and n rows or n squares of size√n × √n on which the matrix is split. & then using dfs for exploration of the grid & for populating the grid.

Output:

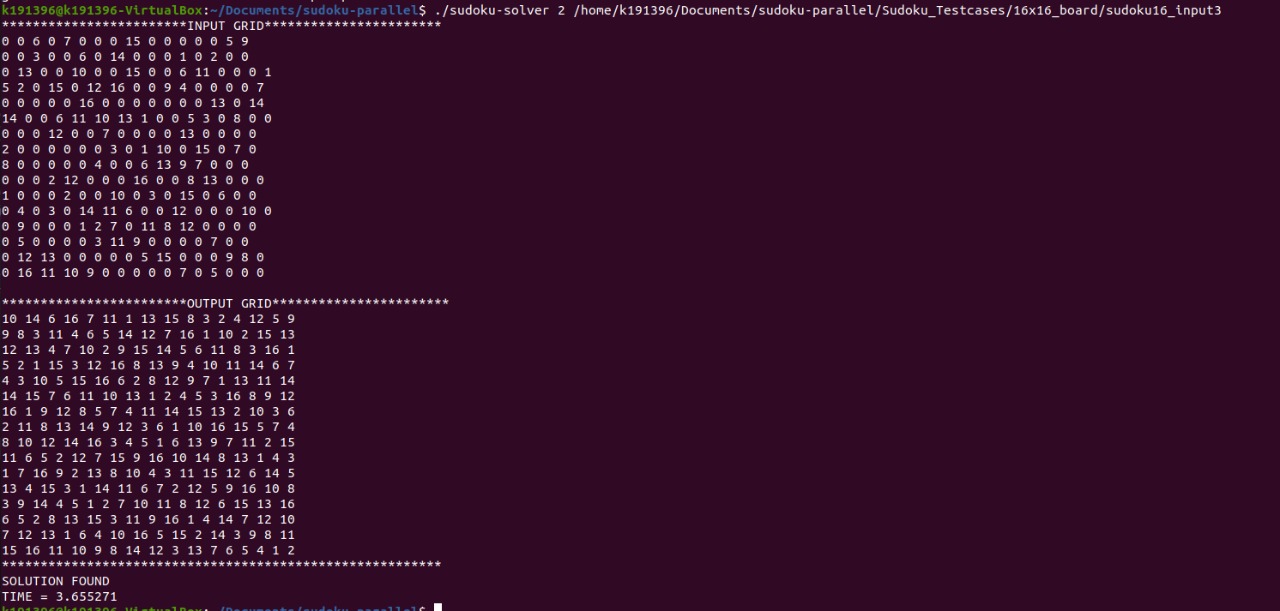
Comparison of Serial and Parallel

input: 16\*16

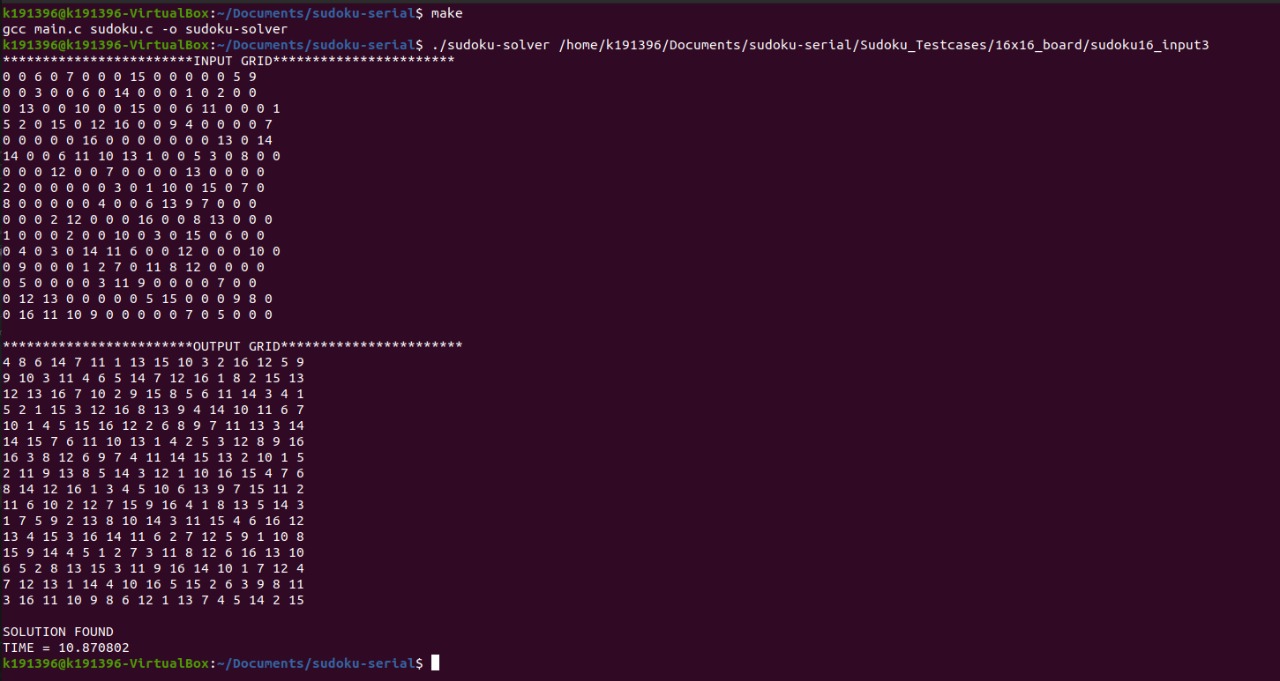
Threads: 4

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Threads: 2

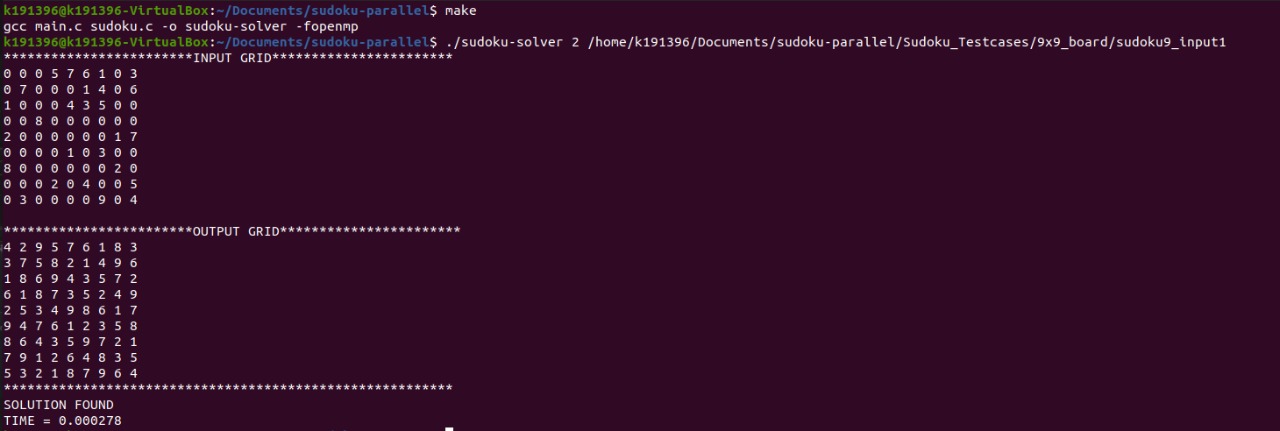
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Serial:

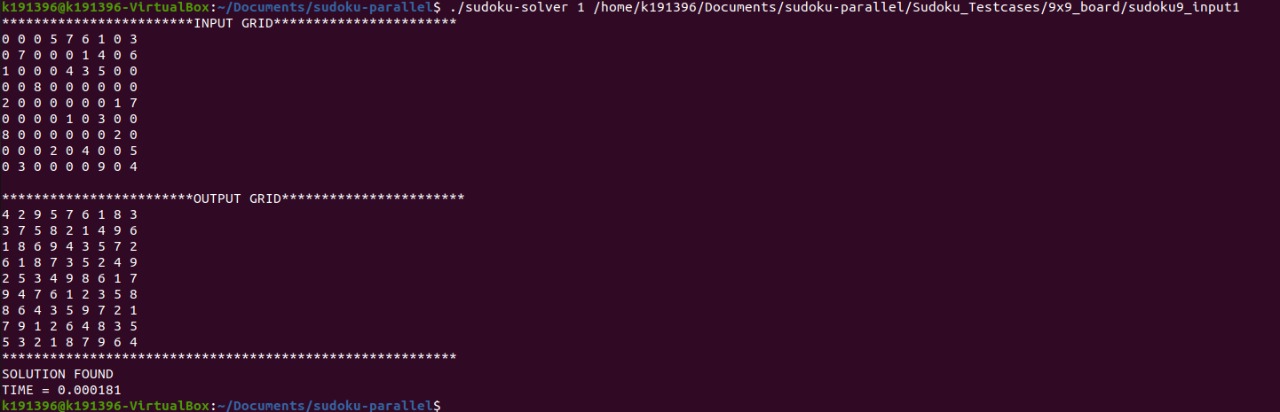
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input: 9\*9

Threads: 2

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Threads: 1

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Serial:

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Graph:

Figure 1 : Parallel Execution on N\*N Soduku

Figure 2 : Serial Execution on N\*N Soduku