

ABSTRACT

Condensation method is a method of computing the determinant of a square matrix due to Charles Dodgson (1866) or better known as Lewis Carroll. The method is also implemented efficiently in parallel computation, which is needed in problems high computational complexity. Parallel computing requires high-performance hardware and software compatible to execute the algorithm in parallel by using Graphical Processing Unit (GPU).

In this final project, we analyze matrix size starting from 500x500 up to 16.000x16.000 which have a significant impact on evaluating determinants of matrix using condensation method on the CPU and the GPU. The analyze showed that in the beginning, the CPU compute faster than the GPU in matrix size 500x500. However CPU computing perform faster when we reach 7.500x7.500 of matrix size.

Keywords: *Condensation Method, Determinant, GPU Computing.*