A Performance Evaluation of Programming Languages Operating in Single Core Instructions

Parallel and Distributed Computing
Bachelors in Informatics and Computer Engineering

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Introduction

This project intends to show and evaluate the effect of processor performance when accessing large amounts of data, performing the same instructions multiple times. In this study, the product of two matrices was used as the base calculation.

Also, a comparison of how different programming languages interact with memory and impact the processor speed is shown. It is important to highlight that these tests were performed on a single core, so no parallelism optimizations are made.

Finally, performance measures were made using the Performance API (PAPI), which will be analyzed and discussed in further detail.

Problem Description

Algorithm Analysis

Performance Evaluation

Conclusion