

Lab #1: Simple Performance Measures

Overview

This lab is a very simple introduction to performance concerns in concurrent programming. The primary purpose is not to demonstrate differences in coding practices but rather to demonstrate the real-world effects of such practices on performance. Think of it as an example of what fine-tuning might accomplish.

Measure

Download the provided source code and compile it on `multicore` using the provided `Makefile`. This will generate three programs. Measure the execution time of each using the Unix `time` command. (Do this a few times and average the execution times for each program.)

Examine the code for each of these generated programs and attempt to determine the reasons for the different execution times.

Experiment

Vary the `STRIDE` value for program `two`. Experiment with this value to determine its effect on the execution time. Attempt to find the smallest value for `STRIDE` that gives performance on par with the original value (i.e., the execution time is nearly the same).

What do you believe this value corresponds to?

Report

Submit a short writeup that compares the measured performance of the different programs, explains the differences, and reports the results of the experimentation portion of the lab.

Submit this using `handin` to `458_lab1` on `vogon`. For example, `handin akeen 458_lab1 paper.pdf`