Concurrent Programming - Spring 2022 - Homework 6

Lecturer: Dr. Mahmood Fazlali TA: Mahdi Movahedian Moghaddam

> May 10, 2022 Shahid Beheshti University

Faculty of Mathematical Sciences

Department of Data and Computer Science

If you have any question, you can raise it in the WhatsApp group or send a message to the telegram ID : @mmovahed02.

Problem

In this assignment, you should implement a parallel program for Strassen algorithm.

Description

In this part you write a parallel algorithm for Strassen matrix multiplication which should be implemented on the heterogeneous platforms (such as GPU, FPGA, ...) using CUDA or OpenCL.

This algorithm use divide and conquer approach for the matrix multiplication. Reporting the ruining time of the algorithm is mandatory for serial and parallel implementations. It is necessary to report the specifications of the execution platform in the document. Also

you should use comments to explain the codes

Utilities

• Library: CUDA, OpenCL

• Languages: C, C++, Python

• Devices: GPU