Lab Exercise Report

1. Exercise 1

Problem: We need to find inner product of two vectors whose elements are real numbers.

Environment: Visual Studio 2017

Cuda 10.1

Pro-Cons of solution: I have coded the input to be given manually. This was not a good idea if we want to measure the time improvement of our code when the matrix dimensions are large.

1. Exercise 2

Problem: We need to find the summation of two matrices whose sizes are the same arbitrary numbers.

Environment: Visual Studio 2017

Cuda 10.1

Pro-Cons of solution: I have coded the input to be given manually. This was not a good idea if we want to measure the time improvement of our code when the matrix dimensions are large.

1. Exercise 3

Problem: We need to find the multiplication of a matrix and a vector.

Environment: Visual Studio 2017

Cuda 10.1

Pro-Cons of solution: I have assigned each row to a thread. Therefore if column number is much greater than the row number in a matrix, my solution would be useless. On the other hand, if the row number is much greater than the column massivley paralles operation can be achieved.

I have coded the input to be given manually. This was not a good idea if we want to measure the time improvement of our code when the matrix dimensions are large.