

## EC527 Assignment 7 Chen-Yu Chang

### Part 1:

I compiled and ran the program successfully.

### Part 2:

The SOR implemented on GPU spent about 22947.043 msec, while on CPU, it spent 0.1017 seconds. Most of the elements are different in the matrices since SOR uses the concept that the calculation will be affected by the previous calculations, so the order will influence the performance of the calculations. Therefore, implementing on CPU and GPU is different.

### Part 3:

It is difficult for the value of the elements in the array to be the same since the floating-point values on the GPU are non-deterministic. Therefore, there is a divergence on SOR since the data elements depend on other elements in the array.