Lab 5 - Gaussian blur

Nguyen Duc Tung

I implement the Gaussian blur on GPU following the sample with 2 versions: without shared memory, and with shared memory

- Without shared memory: each thread stores it's own kernel array

- With shared memory: all threads in 1 block using 1 shared kernel array, the array is initialized using the method introduced on class

Here is the performance comparision:

- CPU version: 1450 ms

- GPU version: 25.2 ms

- GPU version with shared memory: 26.3 ms

Theoretically, shared memory version should have better performance. But as discussed on class, NVIDIA may introduced some better optimization for the array variables on the device.