Assignment3 - CSE - 520 OpenCL

CPU Model:

Platform Name: Inter® CPU Runtime for OpenCL Model name: Intel® Core™ i9-9820X CPU @3.30 GHz

Device Vendor: Intel® Corporation

Architecture: x86_64 CPU op-mode: 32 bit, 64-bit Byte order: Little Endian

CPUs: 20

Threads per core: 2 Max compute units: 20

Max Clock frequency: 3300 MHz Max work item sizes: 8192x8192x8192

Global Memory size: 62.62 GB

GPU Model:

Platform name: NVIDIA CUDA Model name: Quadro RTX 5000 Device Vendor: NVIDIA Corporation

Memory: 160686 MB Power capacity: 230W

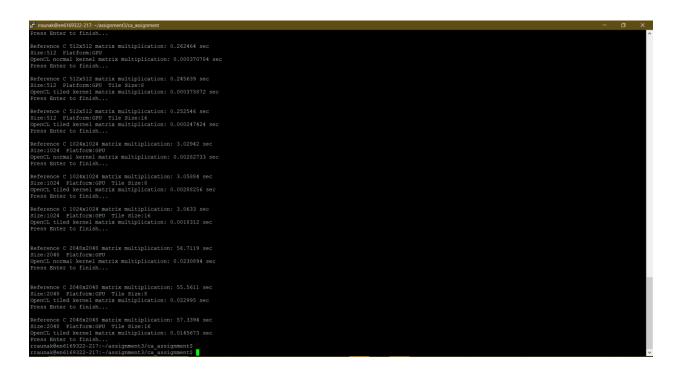
Address bits: 64, Little Endian

Max compute units: 48

Max Clock frequency: 1815 Mhz Max work item sizes: 1024x1024x64 Global Memory size: 15.71 GB

Screenshots:

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### According to Compare the Compare to Comp
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Data Collected:

Matrix size	Reference C implementation (single thread)	OpenCL on CPU			OpenCL on GPU		
		Normal kernel	Tiled kernel (tile_size=8)	Tiled kernel (tile_size=16)	Normal kernel	Tiled kernel (tile_size=8)	Tiled kernel (tile_size=16)
512x512	0.30375	0.00217455	0.019141	0.00128495	0.000370784	0.000375872	0.000247424
1024x1024	2.9275	0.0356848	0.0830187	0.0102522	0.00282733	0.00288256	0.0018312
2048x2048	61.304	0.290544	0.6875	0.083699	0.0230894	0.022995	0.0145673