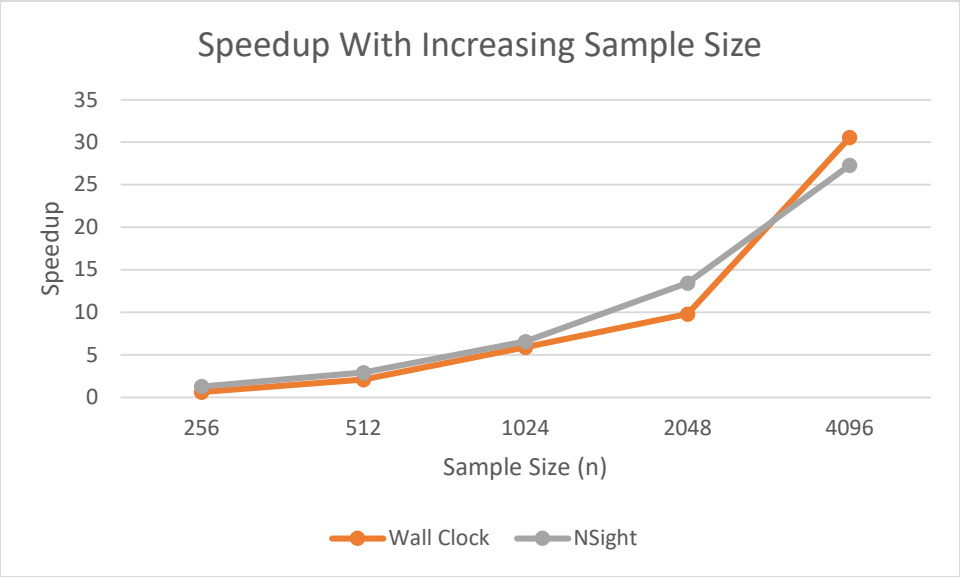
Problem 4

Table 1: CPU, GPU, Nsight Execution Times, Speedup, and Global load counts					
Data Size	**256**	**512**	**1024**	**2048**	**4096**
CPU Time (usecs)	35	152	665	2650	10703
GPU Time (usecs)	55	73	113	270	350
Speedup	0.64	2.08	5.88	9.81	30.58
NSIGHT Time (usecs)	27	52	101	197	392
Speedup	1.30	2.92	6.58	13.45	27.30
Global Loads	4096	16384	65536	262144	1048576



From Table 1 the speedup computed using the NSight profiler is generally higher than the wall clock speedup except when tested with a sample size of 4096. It is likely that the number of wall clock trials needs to be increased to estimate the expected speedup more accurately. It is evident from the global load counts that the solution provided for this matrix vector multiplication problem does not use much if any shared memory and certainly does not utilize a tile approach.