CSCD 439/539 GPU Computing Lab1
Finding Primes on GPU
Lab Report

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The only combination that should be incorrect is the one were the blockSize is 64, this results in a gridSize of 78126, which is greater then 65536. There wasn't a noticeable difference in performance compared to the other configurations, but I did notice during other testing that invalid sizes seemed to result in the gpu kernel not being ran at all.

a) Please use N=10,000,000, and blockSize as a variable

blockSize(in number of threads)	**64**	**128**	**256**	**512**	**1024**
GPU Time Cost (sec)	**0.477**	**0.480**	**0.499**	**0.431**	**0.423**
Speedups (compared with sequential time cost)	**9.20x**	**9.15x**	**9.67x**	**10.20x**	**10.25x**
Sequential Time Cost on CPU (sec)	**4.389**	**4.390**	**4.340**	**4.397**	**4.342**

b) Please use blockSize = 1024, and vary input **N** to fill in the table below.

N	**200,000**	**2,000,000**	**4,000,000**	**8,000,000**	**16,000,000**	**32,000,000**
GPU Time Cost (sec)	0.236	0.262	0.307	0.400	0.691	1.446
CPU Time Cost (sec)	0.052	0.544	1.305	3.235	8.470	22.53
Speedups	0.22x	2.08x	4.245x	8.08x	12.24x	15.58x