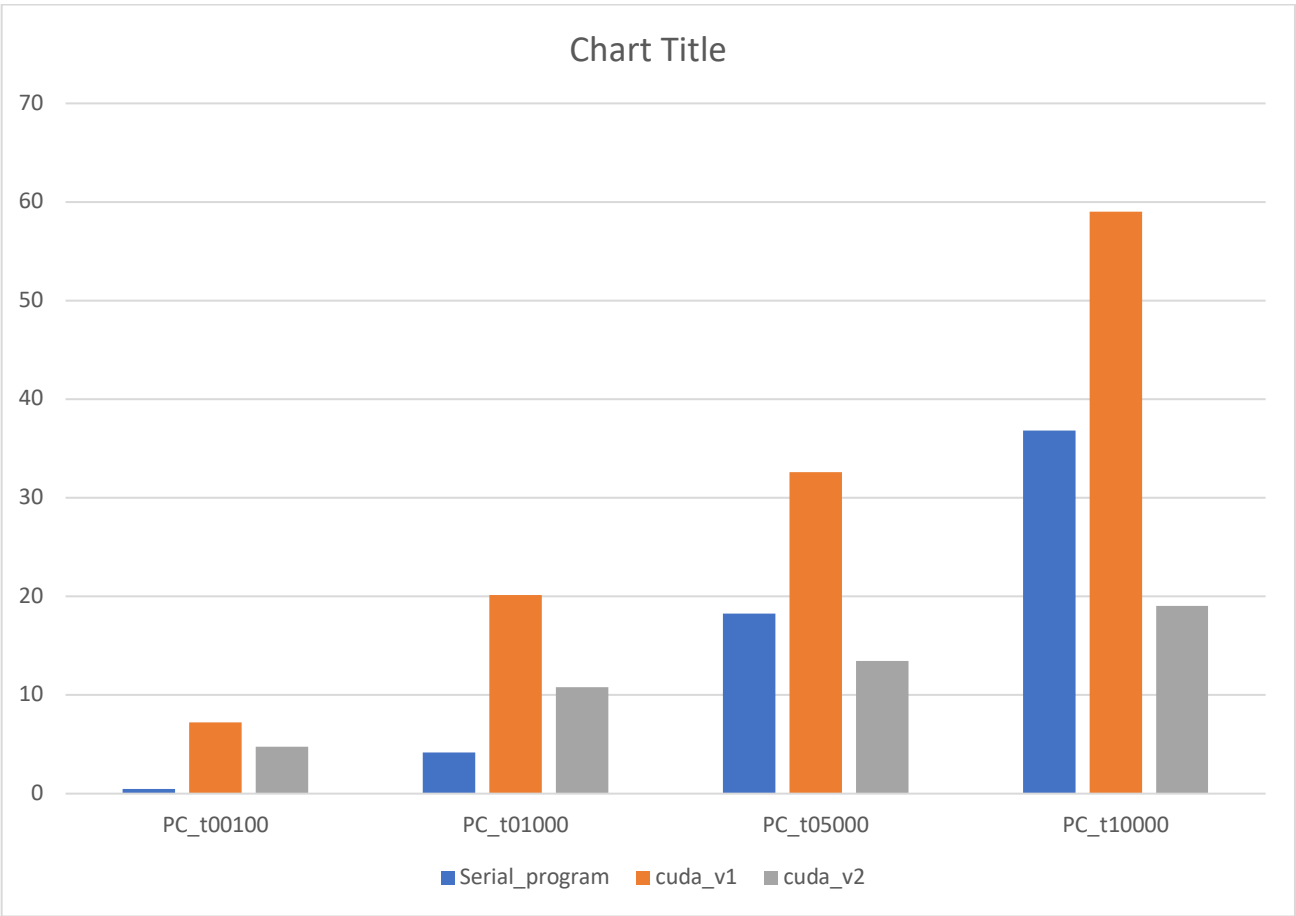


CSE 5441

	serial	cuda_v1	cuda_v2
PC_t00100	27.7s	7m15.217s	4m44s
PC_t01000	4m11.39s	20m10s	10m49s
PC_t05000	18m15s	32m37s	13m26s
PC_t10000	36m49s	>60m	19m2.598s



## CSE 5441

For t00100 & t01000 I just used  $1 * N$  ( $N=100 / 1000$ ) grid to do computation in CUDA;

For t05000 & t10000 I used  $10 * N/10$  ( $N = 5000 / 10000$ ) grid to do computation in CUDA due to the constraint of max number of threads(2048).

### Analysis:

As Shown above, the runtime of CUDA's version2 is around half of version1's. So the SIMD is truly useful.

Although the runtime of CUDA's programs are longer than most serial programs for small data, CUDA's version 2 code just used half of serial's program's runtime for PC\_t10000. This fact illustrates that CUDA will perform well on large dataset.