**CUDA Assignment**

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| **n** | **degree** | **GPU (time)** | **CPU (time)** | **Speedup (against CPU time)** |
| 1000000000 | 1 | 0.432115 | 0.188084 | 0.43526 |
| 1000000000 | 10 | 0.760071 | 0.668491 | 0.87951 |
| 1000000000 | 100 | 1.55539 | 8.03684 | 5.16709 |
| 1000000000 | 1000 | 6.49066 | 90.6887 | 13.9721 |
|  |  |  |  |  |

As depicted from the above table, it’s evident that we don’t see too much speed up for small values of ‘degree’. However, for larger values of ‘degree’, we can see some speed up. My understanding is that this happens because loading data into and out of the GPU is more expensive for smaller values of ‘degree’, but we see that trade off disappear as values of ‘degree’ increases. Since computations are larger, GPUs perform better than CPUs.