

Assignment: CUDA Basics

Submitted By: Mayuri Kingre [801073866]

Output:

n	degree	CPU Time	GPU Time	Speedup
10000000000	1	0.194289	5.1604	0.03765
10000000000	10	0.60944	5.50909	0.110624
10000000000	100	7.11811	6.30854	1.12833
10000000000	1000	87.4985	12.6348	6.9252

Question:

Between CPU and GPU which do you think performs faster?

The performance of CPU computations are better, during first two calculations of polynomial (degree 1 and 10), as opposed to GPU. GPU is giving better execution time in last two calculations, because it has higher values of degree(100 and 1000).

There is a certain latency involved in transferring data to and from host and GPU, which gets compensated when heavier computations take place in GPU. But for computations of lower degree values, the cost of latency is estimated to be higher than the actual computations taking place in GPU. Hence, only higher valued computations perform better on GPU.