

CS610 Semester 2024–2025-I

Assignment-4

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November 5, 2024

Compilation instruction and System information

Provided a make file for compilation.

-- > make

All the below result are generated on gpu3 system

Problem.1

Below are the results(in milli seconds).

Version	Stencil CPU time	Time without cudo memcpy	Time with cudo memcpy
V1	3.90816	0.072768	16.9091
V2	4.16994	0.075264	17.9326
V3	5.3401	0.076736	20.5451
V4	3.76201	0.088992	4.10294
V5	3.95513	—	11.8057

Problem.3

Below are the results(in milli seconds).

Version	Time
V1	62000.9
V2	8416.73
V3	8668.4
V4	8146.02

Problem.4

Below are the results(in milli seconds).

Version	CPU time	Time with cudo memcpy	Time without cudo memcpy	Speedup
(N = 8192) 2D	2986.23	453.463	0.47616	≈ 6.5
2D_Optimised	2660.27	288.277	1.60154	≈ 9.2
(N = 128) 3D	625.618	11.1524	0.321536	≈ 56
3D_Optimised	1064.05	10.0165	0.301056	≈ 106