MICS6002C-Assignment 2

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1. Show CPU and GPU information

- CPU: Intel(R) Xeon(R) Platinum 8378A CPU @ 3.00GHz
- GPU: NVIDIA A800 80GB PCIe

2. Test size 1024x1024

Note: Using simple tiled kernel with 16×16 tile size.

- Compile command:

```
1 ❯ nvcc -o assignment2 assignment2.cu -O3 -arch=sm_80
```

- Result:

```
1 === Testing Matrix Size: 1024x1024 ===
2 Check Suceeded
3 CPU GEMM Time: 303.928 ms
4 GPU GEMM Time: 0.569119 ms
5 Speedup: 534.033x
```

3. Test different matrix sizes

Note: Using simple tiled kernel with 16×16 tile size.

Matrix Size	GPU Time (ms)	CPU Time (ms)	Speedup
128×128	0.02	0.56	32.71×
256×256	0.03	4.42	129.97×
512×512	0.12	35.36	287.45×
1024×1024	0.52	307.23	596.57×