MAIN BENCHMARKS

Matrix dimensions:A (4096x4096) B (4096x4096) C (4096x4096)
Naive Performan: 1.77037
Tiled Performan: 2.36764
Tile Block Size: 16x16 Tile Size: 16 Naive Block Size
Naive Execution Time (ms): 77.7165
Tiled Execution Time (ms): 58.1494

Tile Block Size: 32x8 Tile Size: 32 Naive Block Size: 71.3513 26.5923
Tile Block Size: 64x4 Tile Size: 64 Naive Block Size: 79.2197 20.9661

Matrix dimensions:A (5300x4500) B (4500x5300) C (5300x5300)
Naive Performan: 1.79192
Tiled Performan: 1.17523
Naive Execution Time (ms): 96.6851
Tiled Execution Time (ms): 33.4604

Matrix dimensions:A (100x1000) B (1000x200) C (100x200)
Naive Performance (TFLOPS): 0.69449
Tiled Performance (TFLOPS): 0.780404
Naive Execution Time (ms): 0.288435
Tiled Execution Time (ms): 0.277296

Matrix dimensions:A (100x1000) B (1000x30000) C (100x30000)
Naive Performan: 1.50743
Tiled Performan: 1.48966
Naive Execution Time (ms): 3.98106
Tiled Execution Time (ms): 4.0361

Matrix dimensions:A (10000x10000) B (10000x30000) C (10000x30000)
Naive Performan: 1.94548
Tiled Performan: 1.8087
Naive Execution Time (ms): 3251.21
Tiled Execution Time (ms): 3317.3

Matrix dimensions:A (10000x10000) B (10000x30000) C (10000x30000)
Naive Performance (TFLOPS): 2.46308
Tiled Performance (TFLOPS): 5.25154
Naive Execution Time (ms): 2445.91
Tiled Execution Time (ms): 1142.52

Naive Performance (TFLOPS): 1.84621
Tiled Performance (TFLOPS): 1.82386
Naive Execution Time (ms): 1081.61
Tiled Execution Time (ms): 1096.59

Naive Performance (TFLOPS): 2.46038
Tiled Performance (TFLOPS): 5.26911
Naive Execution Time (ms): 816.201
Tiled Execution Time (ms): 383.945

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Tiled Execution Time (ms): 383.945

ERROR

Matrix Dimensions: 1270 x 1254 x 721

Running Tiled GPU Matrix Multiplication (Tile Size = 64)...

Error Percentage: 0%
Mean Squared Error: 9.07E-11
Max Absolute Error: 6.10E-05

Running Naive GPU Matrix Multiplication...
Error Percentage: 0%
Mean Squared Error: 9.09E-11
Max Absolute Error: 6.10E-05

Mean Squared E Max Absolute Error:
Running Tiled GF 9.07E-11 6.10E-05
Running Naive G 9.09E-11 6.10E-05

Matrix Dimensions: 1041 x 1247 x 139

Running Tiled GPU Matrix Multiplication (Tile Size = 16)...

Error Percentage: 0%
Mean Squared Error: 3.7928e-12
Max Absolute Error: 1.52588e-05

Running Naive GPU Matrix Multiplication...
Error Percentage: 0%
Mean Squared Error: 3.78185e-12
Max Absolute Error: 1.52588e-05

Matrix Dimensions: 535 x 792 x 414

Running Tiled GPU Matrix Multiplication (Tile Size = 32)...

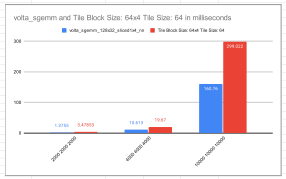
Error Percentage: 0%
Mean Squared Error: 2.70443e-11
Max Absolute Error: 3.81476e-06

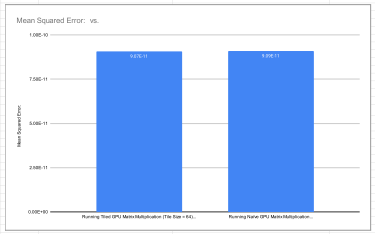
Running Naive GPU Matrix Multiplication...
Error Percentage: 0%
Mean Squared Error: 2.69517e-11
Max Absolute Error: 3.05176e-05

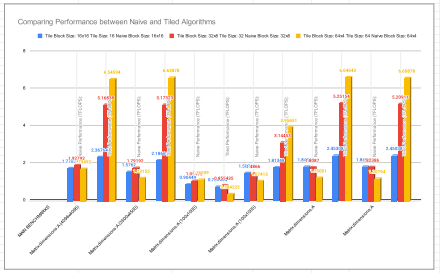
CUBLAS COMPARSION

2000 2000 2000 volta_sgemm_12 4000 4000 4000 i 10000 10000 10000 volta_sgemm_128x64_nn

volta_sgemm_12 1.3755 10.613 160.76
Tile Block Size: 6 3.47853 19.67 299.022







Matrix dimensions:
A (10000x10000)
B (10000x10000)
C (10000x10000)

Performance Results:
Tile Block Size: 16x16 Tile Size: 16
Naive Block Size: 16x16
Naive Execution Time (ms): 1083.07
Tiled Execution Time (ms): 844.586
Naive Performance (TFLOPS): 1.8466
Tiled Performance (TFLOPS): 2.36836

Performance Results:
Tile Block Size: 32x8 Tile Size: 32
Naive Block Size: 32x8
Naive Execution Time (ms): 1117.36
Tiled Execution Time (ms): 419.841
Naive Performance (TFLOPS): 1.79994
Tiled Performance (TFLOPS): 4.77511

Performance Results:
Tile Block Size: 64x4 Tile Size: 64
Naive Block Size: 64x4
Naive Execution Time (ms): 1588.94
Tiled Execution Time (ms): 341.047
Naive Performance (TFLOPS): 1.2587
Tiled Performance (TFLOPS): 5.86398