

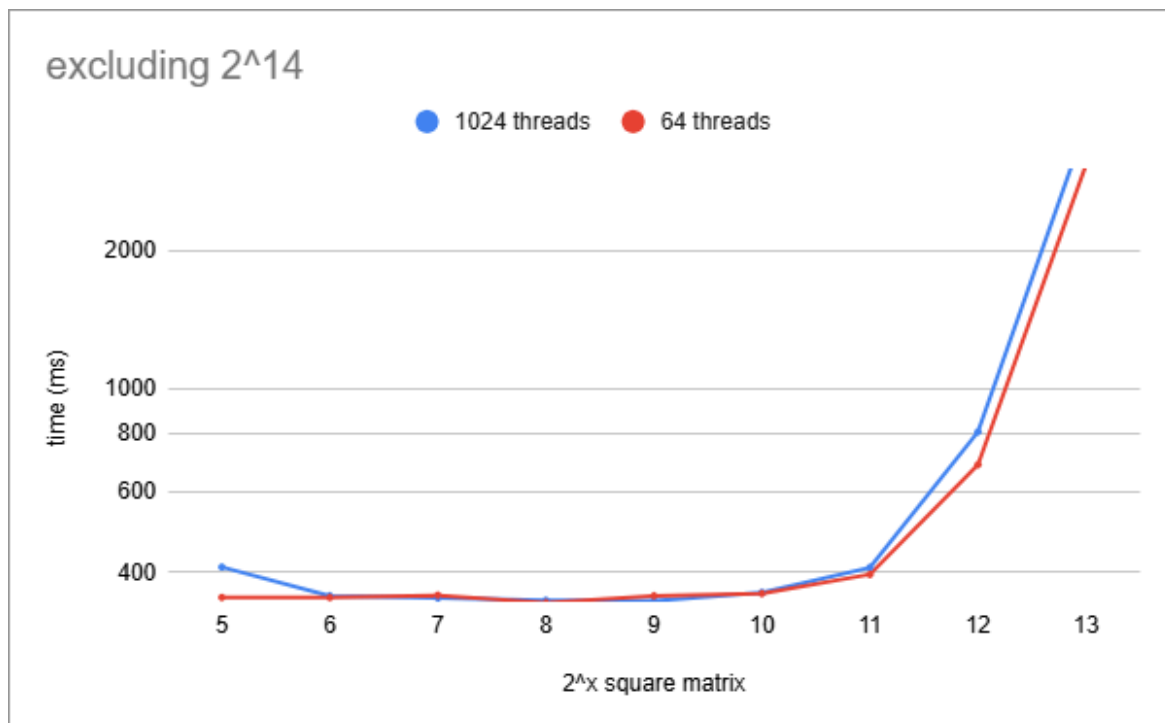
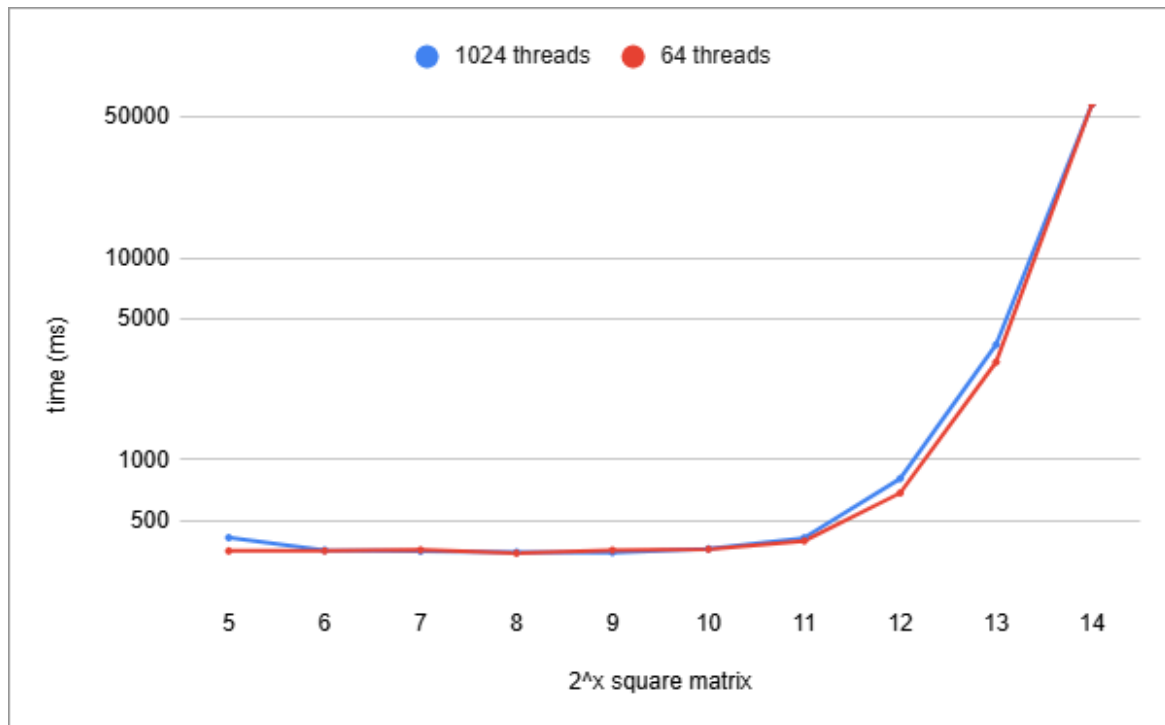
Leah Blasczyk

HW06

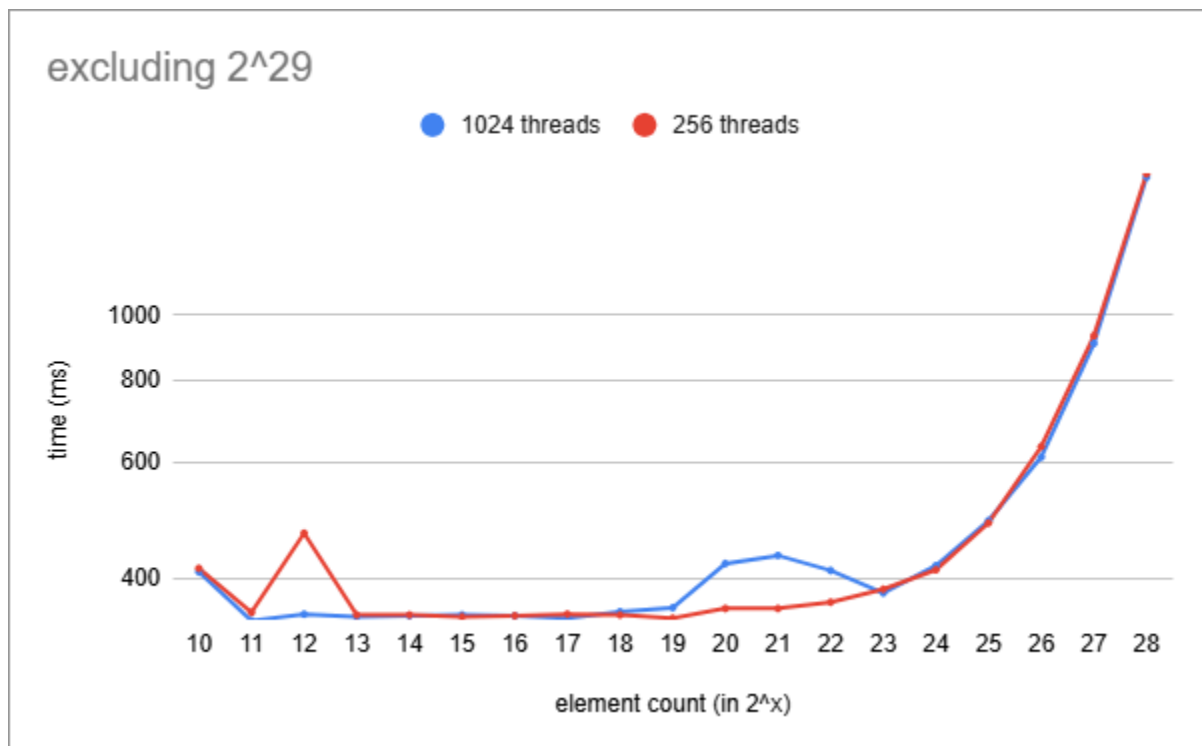
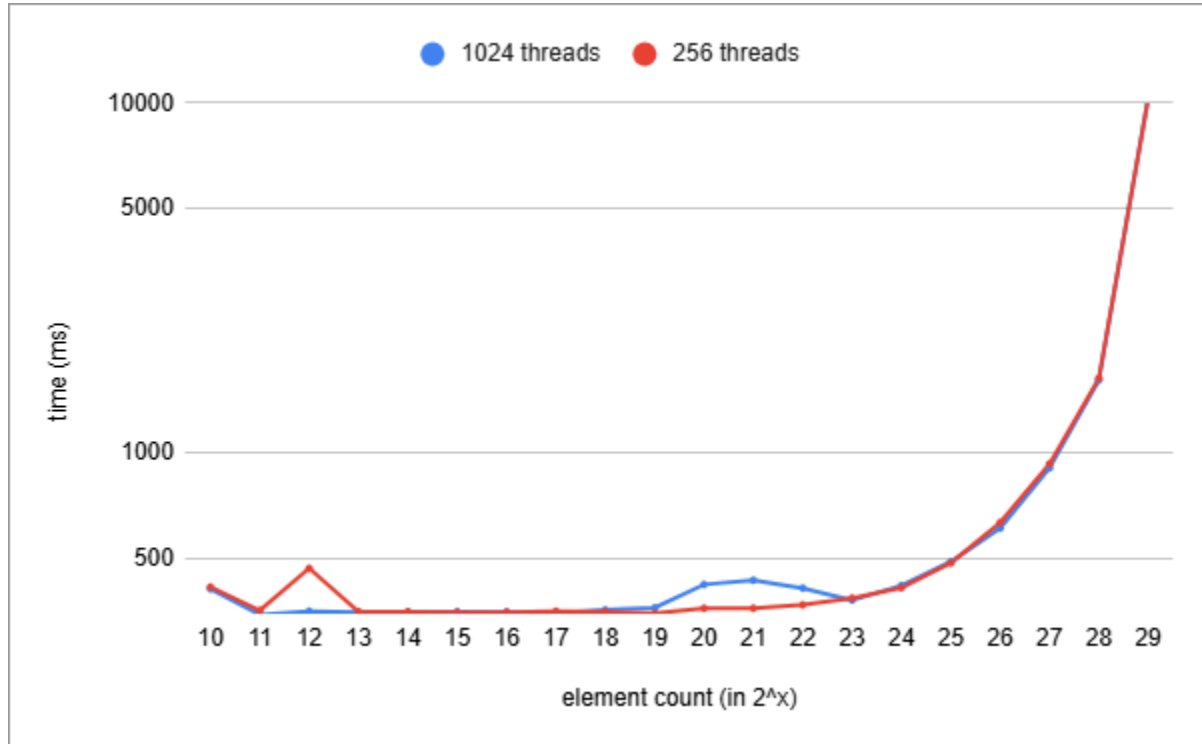
GitHub Username: **Lebrra**

(Assignment 6 Path: <https://github.com/Lebrra/repo759/tree/main/HW06>)

task1 graphs (with and without the last point for visibility)



task 2 graphs (with and without the last point for visibility)



task1 output (both thread counts ran at once)

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1024 threads:

Results:

element count: 32
time to process: 411 milliseconds
first element: -1.4424
last element: -2.99465

64 threads:

Results:

element count: 32
time to process: 353 milliseconds
first element: 1.25898
last element: 2.39624

1024 threads:

Results:

element count: 64
time to process: 356 milliseconds
first element: 1.59291
last element: -3.46487

64 threads:

Results:

element count: 64
time to process: 353 milliseconds
first element: -1.33975
last element: 4.92015

1024 threads:

Results:

element count: 128
time to process: 352 milliseconds
first element: -1.25613
last element: -4.26764

64 threads:

Results:

element count: 128
time to process: 357 milliseconds
first element: -1.48008
last element: 1.64482

1024 threads:

Results:

element count: 256
time to process: 348 milliseconds
first element: -1.62074
last element: 5.8947

64 threads:

Results:

element count: 256
time to process: 344 milliseconds
first element: -9.72712
last element: -2.19827

1024 threads:

Results:

element count: 512
time to process: 347 milliseconds
first element: -5.59934
last element: 1.41775

64 threads:

Results:

element count: 512
time to process: 356 milliseconds
first element: 7.58099
last element: -2.518

1024 threads:

Results:

element count: 1024
time to process: 362 milliseconds
first element: -22.3219
last element: -1.05043

64 threads:

Results:

element count: 1024
time to process: 360 milliseconds
first element: -16.1724
last element: -3.15412

1024 threads:

Results:

element count: 2048
time to process: 410 milliseconds
first element: 14.5837
last element: 1.3661

64 threads:

Results:

element count: 2048
time to process: 396 milliseconds
first element: -45.5343
last element: -1.71605

1024 threads:

Results:

element count: 4096
time to process: 807 milliseconds
first element: -5.96603
last element: 1.99803

64 threads:

Results:

element count: 4096
time to process: 685 milliseconds
first element: 44.2871
last element: -23.171

1024 threads:

Results:

element count: 8192
time to process: 3734 milliseconds
first element: 25.2849
last element: 4.562

64 threads:

Results:

element count: 8192
time to process: 3059 milliseconds
first element: -31.7038
last element: -28.6619

1024 threads:

Results:

element count: 16384

time to process: 58346 milliseconds
first element: -19.8574
last element: 17.5769

64 threads:

Results:

element count: 16384
time to process: 58208 milliseconds
first element: -59.9853
last element: -14.6331

task2 output:

(threads = 1024)

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Results:

element count: 1024
R value: 128
time to process: 410 milliseconds
first element: 2.00437
last element: 0.64897

Results:

element count: 2048
R value: 128
time to process: 346 milliseconds
first element: -1.33836
last element: 7.6774

Results:

element count: 4096
R value: 128
time to process: 354 milliseconds
first element: -1.88904
last element: -25.858

Results:

element count: 8192
R value: 128
time to process: 351 milliseconds
first element: 0.418745
last element: 40.5498

Results:

element count: 16384
R value: 128
time to process: 352 milliseconds
first element: -0.6156
last element: 6.28313

Results:

element count: 32768
R value: 128
time to process: 353 milliseconds
first element: 7.56996

last element: 48.9739

Results:

element count: 65536

R value: 128

time to process: 352 milliseconds

first element: 5.19193

last element: -12.0815

Results:

element count: 131072

R value: 128

time to process: 349 milliseconds

first element: 5.41104

last element: -32.3572

Results:

element count: 262144

R value: 128

time to process: 357 milliseconds

first element: 8.9256

last element: -39.9172

Results:

element count: 524288

R value: 128

time to process: 362 milliseconds

first element: -1.12404

last element: 4.29988

Results:

element count: 1048576

R value: 128

time to process: 422 milliseconds

first element: 1.76944

last element: 60.4744

Results:

element count: 2097152

R value: 128

time to process: 434 milliseconds

first element: -0.88345

last element: 51.7398

Results:
element count: 4194304
R value: 128
time to process: 412 milliseconds
first element: -1.45711
last element: -19.0861

Results:
element count: 8388608
R value: 128
time to process: 381 milliseconds
first element: 5.59353
last element: 18.6828

Results:
element count: 16777216
R value: 128
time to process: 419 milliseconds
first element: 4.76519
last element: -44.6344

Results:
element count: 33554432
R value: 128
time to process: 490 milliseconds
first element: -3.70612
last element: 29.714

Results:
element count: 67108864
R value: 128
time to process: 611 milliseconds
first element: -5.11438
last element: -51.2023

Results:
element count: 134217728
R value: 128
time to process: 907 milliseconds
first element: -0.951733
last element: 24.4491

Results:
element count: 268435456

R value: 128
time to process: 1617 milliseconds
first element: -6.1647
last element: 2.00691

Results:
element count: 536870912
R value: 128
time to process: 10336 milliseconds
first element: -6.77755
last element: -13.7125

(threads = 256)

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Results:
element count: 1024
R value: 128
time to process: 415 milliseconds
first element: -6.90058
last element: 1480.2

Results:
element count: 2048
R value: 128
time to process: 356 milliseconds
first element: 0.970007
last element: -251.955

Results:
element count: 4096
R value: 128
time to process: 469 milliseconds
first element: -10.0708
last element: -1508.39

Results:
element count: 8192
R value: 128
time to process: 353 milliseconds
first element: 1.44986
last element: 1184.14

Results:
element count: 16384
R value: 128
time to process: 353 milliseconds
first element: -1.39477
last element: -226.612

Results:
element count: 32768
R value: 128
time to process: 351 milliseconds
first element: 2.75532
last element: 23573.4

Results:
element count: 65536
R value: 128
time to process: 352 milliseconds
first element: 2.75215
last element: -3376.62

Results:
element count: 131072
R value: 128
time to process: 354 milliseconds
first element: -0.731928
last element: -13764.3

Results:
element count: 262144
R value: 128
time to process: 353 milliseconds
first element: -3.54154
last element: -2910.01

Results:
element count: 524288
R value: 128
time to process: 348 milliseconds
first element: -5.19687
last element: 2427.75

Results:
element count: 1048576

R value: 128
time to process: 361 milliseconds
first element: 8.55435
last element: -1339.63

Results:
element count: 2097152
R value: 128
time to process: 361 milliseconds
first element: -6.08149
last element: 14634.4

Results:
element count: 4194304
R value: 128
time to process: 369 milliseconds
first element: -3.54562
last element: -20.2071

Results:
element count: 8388608
R value: 128
time to process: 386 milliseconds
first element: 4.87399
last element: -6936.28

Results:
element count: 16777216
R value: 128
time to process: 413 milliseconds
first element: 1.63431
last element: -1272.56

Results:
element count: 33554432
R value: 128
time to process: 486 milliseconds
first element: -2.68999
last element: -746.264

Results:
element count: 67108864
R value: 128
time to process: 634 milliseconds

first element: -7.77088
last element: -11421.7

Results:
element count: 134217728
R value: 128
time to process: 932 milliseconds
first element: 1.93018
last element: 437.838

Results:
element count: 268435456
R value: 128
time to process: 1636 milliseconds
first element: -0.802376
last element: -8311.06

Results:
element count: 536870912
R value: 128
time to process: 10289 milliseconds
first element: 4.52788
last element: 4905.41