Dot:

Sequential/Parallel | threads | Length | Result | time

Sequential 1 10000000 1.000000e+07 0.0120985640

Parallel 1 10000000 1.000000e+07 0.0119740710

Parallel 2 10000000 1.000000e+07 0.0087391510

Parallel 4 10000000 1.000000e+07 0.0052726810

Parallel 8 10000000 1.000000e+07 0.0051024770

Parallel 16 10000000 1.000000e+07 0.0053829720

Sequential 1 10000000 1.000000e+07 0.0145194660

DOT\_PRODUCT

Normal end of execution.

Sequential/Parallel | threads | Length | Result | time

Sequential 1 10000000 1.000000e+07 0.0121539530

Parallel 1 10000000 1.000000e+07 0.0120952960

Parallel 2 10000000 1.000000e+07 0.0096702420

Parallel 4 10000000 1.000000e+07 0.0052891820

Parallel 8 10000000 1.000000e+07 0.0051421610

Parallel 16 10000000 1.000000e+07 0.0054101620

Sequential 1 10000000 1.000000e+07 0.0144132960

DOT\_PRODUCT

Normal end of execution.

Sequential/Parallel | threads | Length | Result | time

Sequential 1 10000000 1.000000e+07 0.0122805650

Parallel 1 10000000 1.000000e+07 0.0120268600

Parallel 2 10000000 1.000000e+07 0.0093563480

Parallel 4 10000000 1.000000e+07 0.0051301020

Parallel 8 10000000 1.000000e+07 0.0050585110

Parallel 16 10000000 1.000000e+07 0.0053757790

Sequential 1 10000000 1.000000e+07 0.0147166080

DOT\_PRODUCT

Normal end of execution.

Sequential/Parallel | threads | Length | Result | time

Sequential 1 10000000 1.000000e+07 0.0124143390

Parallel 1 10000000 1.000000e+07 0.0123107530

Parallel 2 10000000 1.000000e+07 0.0108588370

Parallel 4 10000000 1.000000e+07 0.0055935170

Parallel 8 10000000 1.000000e+07 0.0049847430

Parallel 16 10000000 1.000000e+07 0.0054702890

Sequential 1 10000000 1.000000e+07 0.0148065480

DOT\_PRODUCT

Normal end of execution.

Heat 1

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 1

MEAN = 74.9499

Iteration Change

1 18.7375

2 9.36874

4 4.09882

8 2.28958

16 1.1366

32 0.568201

64 0.282805

128 0.141777

256 0.070808

512 0.035427

1024 0.0177074

2048 0.00885567

4096 0.0044276

8192 0.00221017

16384 0.00104281

16955 0.00099998

Error tolerance achieved.

Wallclock time = 21.7603

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 2

MEAN = 52.2044

Iteration Change

1 23.8978

2 8.96167

4 4.10743

8 2.14415

16 1.07335

32 0.534844

64 0.268052

128 0.134291

256 0.067198

512 0.0336077

1024 0.0168101

2048 0.00840415

4096 0.00420231

8192 0.00210126

16384 0.00105059

17213 0.000999918

Error tolerance achieved.

Wallclock time = 11.2188

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 4

MEAN = 37.3246

Iteration Change

1 31.3377

2 11.7516

4 5.38616

8 2.81167

16 1.4075

32 0.701352

64 0.351502

128 0.176098

256 0.0881182

512 0.0440704

1024 0.0220435

2048 0.0110205

4096 0.00551057

8192 0.00275543

16384 0.00137794

22641 0.000999993

Error tolerance achieved.

Wallclock time = 7.56801

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 8

MEAN = 28.006

Iteration Change

1 35.997

2 13.4989

4 6.18698

8 3.22971

16 1.61677

32 0.80563

64 0.403763

128 0.202281

256 0.10122

512 0.0506229

1024 0.0253209

2048 0.0126591

4096 0.00632989

8192 0.00316511

16384 0.00158295

26277 0.000999999

Error tolerance achieved.

Wallclock time = 4.95866

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 16

MEAN = 13.978

Iteration Change

1 43.011

2 16.1291

4 7.39252

8 3.85902

16 1.9318

32 0.962607

64 0.482437

128 0.241695

256 0.120942

512 0.0604868

1024 0.0302547

2048 0.0151257

4096 0.00756327

8192 0.00378184

16384 0.00189157

32768 0.00100752

33136 0.000999989

Error tolerance achieved.

Wallclock time = 4.36131

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 32

MEAN = 67.0842

Iteration Change

1 16.771

2 8.38552

4 3.66867

8 2.04929

16 1.01732

32 0.508571

64 0.253125

128 0.126898

256 0.063377

512 0.0317091

1024 0.0158491

2048 0.0079263

4096 0.00396294

8192 0.00197686

15238 0.000999925

Error tolerance achieved.

Wallclock time = 7.75129

HEATED\_PLATE\_OPENMP:

Normal end of execution.

2.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 1

MEAN = 74.9499

Iteration Change

1 18.7375

2 9.36874

4 4.09882

8 2.28958

16 1.1366

32 0.568201

64 0.282805

128 0.141777

256 0.070808

512 0.035427

1024 0.0177074

2048 0.00885567

4096 0.0044276

8192 0.00221017

16384 0.00104281

16955 0.00099998

Error tolerance achieved.

Wallclock time = 21.7713

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 2

MEAN = 61.8236

Iteration Change

1 19.0882

2 7.72796

4 3.38098

8 1.88859

16 0.937547

32 0.46869

64 0.233276

128 0.116947

256 0.0584071

512 0.0292226

1024 0.0146062

2048 0.00730475

4096 0.00365217

8192 0.00182082

14123 0.000999924

Error tolerance achieved.

Wallclock time = 9.19912

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 4

MEAN = 37.4749

Iteration Change

1 31.2625

2 11.7234

4 5.37325

8 2.80493

16 1.40413

32 0.69967

64 0.350659

128 0.175676

256 0.0879068

512 0.0439647

1024 0.0219906

2048 0.0109941

4096 0.00549736

8192 0.00274882

16384 0.00137464

22585 0.000999985

Error tolerance achieved.

Wallclock time = 7.55302

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 8

MEAN = 26.6032

Iteration Change

1 36.6984

2 13.7619

4 6.30754

8 3.29264

16 1.64828

32 0.821327

64 0.411631

128 0.206222

256 0.103192

512 0.0516093

1024 0.0258143

2048 0.0129058

4096 0.00645323

8192 0.00322679

16384 0.00161382

26861 0.000999998

Error tolerance achieved.

Wallclock time = 5.09304

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 16

MEAN = 15.5812

Iteration Change

1 42.2094

2 15.8285

4 7.25474

8 3.7871

16 1.8958

32 0.944667

64 0.473445

128 0.237191

256 0.118688

512 0.0593595

1024 0.0296909

2048 0.0148438

4096 0.00742231

8192 0.00371135

16384 0.0018563

32174 0.000999973

Error tolerance achieved.

Wallclock time = 4.28853

HEATED\_PLATE\_OPENMP:

Normal end of execution.

HEATED\_PLATE\_OPENMP

C++/OpenMP version

A program to solve for the steady state temperature distribution

over a rectangular plate.

Spatial grid of 500 by 500 points.

The iteration will be repeated until the change is <= 0.001

Number of processors available = 16

Number of threads = 32

MEAN = 74.5491

Iteration Change

1 18.6373

2 9.31864

4 4.0769

8 2.27733

16 1.13053

32 0.565163

64 0.281292

128 0.141019

256 0.0704294

512 0.0352376

1024 0.0176127

2048 0.00880832

4096 0.00440392

8192 0.00219828

16384 0.00103615

16866 0.000999958

Error tolerance achieved.

Wallclock time = 8.56875

HEATED\_PLATE\_OPENMP:

Normal end of execution.

Quicksort Parallel:

The array with lenght 100000 was sortet in 0.01257894599984866 s

The array with lenght 100000 was sortet in 0.01284963099897141 s

The array with lenght 1000000 was sortet in 0.1025724890005222 s

The array with lenght 1000000 was sortet in 0.1082519239998874 s

The array with lenght 10000000 was sortet in 0.9918862759986951 s

The array with lenght 10000000 was sortet in 0.9523564190021716 s

Sequentiel:

The array with lenght 100000 was sortet in 0.01209410600040428 s

The array with lenght 1000000 was sortet in 0.09453706600015721 s

The array with lenght 10000000 was sortet in 1.081194949000746 s

The array with lenght 100000 was sortet in 0.012196170995594 s

The array with lenght 1000000 was sortet in 0.09448506399348844 s

The array with lenght 10000000 was sortet in 1.081260170001769 s