

[illegible]

```
/*  
 * CPU Report  
 */
```

```
model name      : Intel(R) Core(TM) i7-4770K CPU @ 3.50GHz  
vendor_id       : GenuineIntel  
cpu cores       : 4  
siblings        : 8  
cache size      : 8192 KB
```

```
/*
 * Serie Runtime Report In Seconds
 */

2 2000 :1.40e-05:1.70e-05:2.70e-05:3.20e-05:2.60e-05
2 4000 :3.50e-05:5.40e-05:3.10e-05:3.40e-05:2.90e-05
4 2000 :1.40e-05:2.00e-05:2.60e-05:1.70e-05:1.40e-05
4 4000 :2.70e-05:4.30e-05:3.60e-05:5.00e-05:2.70e-05
6 2000 :1.50e-05:1.50e-05:1.70e-05:1.50e-05:1.30e-05
6 4000 :2.70e-05:3.20e-05:2.80e-05:3.20e-05:2.80e-05
8 2000 :2.20e-05:2.00e-05:1.50e-05:1.50e-05:1.50e-05
8 4000 :2.80e-05:3.50e-05:3.40e-05:4.00e-05:3.20e-05
```

```
/*
 * Parallel Runtime Report In Seconds
 */

2 2000 :1.64e-05:1.71e-05:1.35e-05:1.32e-05:1.85e-05
2 4000 :1.86e-05:1.81e-05:1.81e-05:1.92e-05:3.31e-05
4 2000 :1.60e-05:1.73e-05:1.42e-05:1.48e-05:1.74e-05
4 4000 :2.03e-05:2.02e-05:2.17e-05:2.47e-05:1.88e-05
6 2000 :1.12e-05:2.61e-05:2.25e-05:3.06e-05:2.00e-05
6 4000 :1.76e-05:2.34e-05:3.51e-05:4.92e-05:1.87e-05
8 2000 :6.79e-05:5.95e-05:7.22e-05:6.17e-05:5.70e-05
8 4000 :6.20e-05:5.80e-05:7.25e-05:4.79e-05:7.25e-05
```

```
/*
 * Speedup Report
 */

2 2000 :8.54e-01:9.94e-01:2.00e+00:2.42e+00:1.41e+00
2 4000 :1.88e+00:2.98e+00:1.71e+00:1.77e+00:8.76e-01
4 2000 :8.75e-01:1.16e+00:1.83e+00:1.15e+00:8.05e-01
4 4000 :1.33e+00:2.13e+00:1.66e+00:2.02e+00:1.44e+00
6 2000 :1.34e+00:5.75e-01:7.56e-01:4.90e-01:6.50e-01
6 4000 :1.53e+00:1.37e+00:7.98e-01:6.50e-01:1.50e+00
8 2000 :3.24e-01:3.36e-01:2.08e-01:2.43e-01:2.63e-01
8 4000 :4.52e-01:6.03e-01:4.69e-01:8.35e-01:4.41e-01
```

/*

* Parallel Calculation Report

*/

2 Cores CPU - Size Problem 2000

Try 1

Runtime 1.64e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	1000	2000	0.463648	0.463648
1	2	1000	2000	1.287002	3.141593

Try 2

Runtime 1.71e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	1000	2000	0.463648	0.463648
1	2	1000	2000	1.287002	3.141593

Try 3

Runtime 1.35e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	1000	2000	0.463648	0.463648
1	2	1000	2000	1.287002	3.141593

Try 4

Runtime 1.32e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	1000	2000	0.463648	0.463648
1	2	1000	2000	1.287002	3.141593

Try 5

Runtime 1.85e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	1000	2000	0.463648	0.463648
1	2	1000	2000	1.287002	3.141593

2 Cores CPU - Size Problem 4000

Try 1

Runtime 1.86e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	2000	4000	0.463648	0.463648
1	2	2000	4000	1.287002	3.141593

Try 2

Runtime 1.81e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	2000	4000	0.463648	0.463648
1	2	2000	4000	1.287002	3.141593

Try 3

Runtime 1.81e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	2000	4000	0.463648	0.463648
1	2	2000	4000	1.287002	3.141593

 Try 4

Runtime 1.92e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	2000	4000	0.463648	0.463648
1	2	2000	4000	1.287002	3.141593

Try 5

Runtime 3.31e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	2000	4000	0.463648	0.463648
1	2	2000	4000	1.287002	3.141593

4 Cores CPU - Size Problem 2000

Try 1

Runtime 1.60e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	500	2000	0.244979	0.244979
1	4	500	2000	0.719414	1.699329
2	4	500	2000	0.567588	2.266917
3	4	500	2000	0.874676	3.141593

Try 2

Runtime 1.73e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	500	2000	0.244979	0.244979
1	4	500	2000	0.719414	1.699329
2	4	500	2000	0.874676	2.574004
3	4	500	2000	0.567588	3.141593

Try 3

Runtime 1.42e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	500	2000	0.244979	0.244979
1	4	500	2000	0.567588	1.547503
2	4	500	2000	0.874676	2.422179
3	4	500	2000	0.719414	3.141593

Try 4

Runtime 1.48e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	500	2000	0.244979	0.244979
1	4	500	2000	0.719414	1.699329
2	4	500	2000	0.874676	2.574004
3	4	500	2000	0.567588	3.141593

Try 5

Runtime 1.74e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	500	2000	0.244979	0.244979
1	4	500	2000	0.874676	1.854590
2	4	500	2000	0.567588	2.422179
3	4	500	2000	0.719414	3.141593

4 Cores CPU - Size Problem 4000

Try 1

Runtime 2.03e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	1000	4000	0.244979	0.244979
1	4	1000	4000	0.874676	1.854590
2	4	1000	4000	0.719414	2.574004
3	4	1000	4000	0.567588	3.141593

Try 2

Runtime 2.02e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	1000	4000	0.244979	0.244979
1	4	1000	4000	0.567588	1.547503
2	4	1000	4000	0.874676	2.422179
3	4	1000	4000	0.719414	3.141593

Try 3

Runtime 2.17e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	1000	4000	0.244979	0.244979
1	4	1000	4000	0.719414	1.699329
2	4	1000	4000	0.874676	2.574004
3	4	1000	4000	0.567588	3.141593

Try 4

Runtime 2.47e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	1000	4000	0.244979	0.244979
1	4	1000	4000	0.874676	1.854590
2	4	1000	4000	0.719414	2.574004
3	4	1000	4000	0.567588	3.141593

Try 5

Runtime 1.88e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	1000	4000	0.244979	0.244979
1	4	1000	4000	0.874676	1.854590
2	4	1000	4000	0.719414	2.574004
3	4	1000	4000	0.567588	3.141593

6 Cores CPU - Size Problem 2000

Try 1

Runtime 1.12e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	333	2000	0.165473	0.165473
1	6	333	2000	0.627607	1.289499
2	6	333	2000	0.498343	1.787842
3	6	333	2000	0.363306	2.151148
4	6	333	2000	0.427729	2.578878
5	6	333	2000	0.568655	3.147533

Try 2

Runtime 2.61e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	333	2000	0.165473	0.165473
1	6	333	2000	0.568655	1.230547
2	6	333	2000	0.363306	1.593853

3	6	333	2000	0.627607	2.221460
4	6	333	2000	0.498343	2.719803
5	6	333	2000	0.427729	3.147533

Try 3

Runtime 2.25e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	333	2000	0.165473	0.165473
1	6	333	2000	0.427729	1.089621
2	6	333	2000	0.363306	1.452927
3	6	333	2000	0.568655	2.021582
4	6	333	2000	0.498343	2.519925
5	6	333	2000	0.627607	3.147533

Try 4

Runtime 3.06e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	333	2000	0.165473	0.165473
1	6	333	2000	0.427729	1.089621
2	6	333	2000	0.568655	1.658276
3	6	333	2000	0.627607	2.285884
4	6	333	2000	0.498343	2.784226
5	6	333	2000	0.363306	3.147533

Try 5

Runtime 2.00e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	333	2000	0.165473	0.165473
1	6	333	2000	0.427729	1.089621
2	6	333	2000	0.363306	1.452927
3	6	333	2000	0.568655	2.021582
4	6	333	2000	0.627607	2.649190
5	6	333	2000	0.498343	3.147533

6 Cores CPU - Size Problem 4000

Try 1

Runtime 1.76e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	666	4000	0.165230	0.165230
1	6	666	4000	0.427139	1.088058
2	6	666	4000	0.626708	1.714766
3	6	666	4000	0.362806	2.077572
4	6	666	4000	0.497651	2.575223
5	6	666	4000	0.567855	3.143078

Try 2

Runtime 2.34e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	666	4000	0.165230	0.165230
1	6	666	4000	0.362806	1.023725
2	6	666	4000	0.626708	1.650433
3	6	666	4000	0.497651	2.148083
4	6	666	4000	0.427139	2.575223
5	6	666	4000	0.567855	3.143078

Try 3

Runtime 3.51e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	666	4000	0.165230	0.165230

1	6	666	4000	0.567855	1.228774
2	6	666	4000	0.427139	1.655913
3	6	666	4000	0.362806	2.018720
4	6	666	4000	0.497651	2.516370
5	6	666	4000	0.626708	3.143078

Try 4

Runtime 4.92e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	666	4000	0.165230	0.165230
1	6	666	4000	0.497651	1.158570
2	6	666	4000	0.626708	1.785277
3	6	666	4000	0.567855	2.353132
4	6	666	4000	0.427139	2.780272
5	6	666	4000	0.362806	3.143078

Try 5

Runtime 1.87e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	666	4000	0.165230	0.165230
1	6	666	4000	0.626708	1.287627
2	6	666	4000	0.567855	1.855481
3	6	666	4000	0.427139	2.282621
4	6	666	4000	0.497651	2.780272
5	6	666	4000	0.362806	3.143078

8 Cores CPU - Size Problem 2000

Try 1

Runtime 6.79e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	250	2000	0.124355	0.124355
1	8	250	2000	0.419508	0.916928
2	8	250	2000	0.482495	1.399422
3	8	250	2000	0.455168	1.854590
4	8	250	2000	0.379807	2.234397
5	8	250	2000	0.339607	2.574004
6	8	250	2000	0.301316	2.875320
7	8	250	2000	0.266273	3.141593

Try 2

Runtime 5.95e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	250	2000	0.124355	0.124355
1	8	250	2000	0.482495	0.979915
2	8	250	2000	0.455168	1.435083
3	8	250	2000	0.419508	1.854590
4	8	250	2000	0.379807	2.234397
5	8	250	2000	0.339607	2.574004
6	8	250	2000	0.301316	2.875320
7	8	250	2000	0.266273	3.141593

Try 3

Runtime 7.22e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	250	2000	0.124355	0.124355
1	8	250	2000	0.455168	0.952588
2	8	250	2000	0.482495	1.435083
3	8	250	2000	0.379807	1.814890
4	8	250	2000	0.339607	2.154497
5	8	250	2000	0.301316	2.455812
6	8	250	2000	0.266273	2.722085

7	8	250	2000	0.419508	3.141593
---	---	-----	------	----------	----------

Try 4

Runtime 6.17e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	250	2000	0.124355	0.124355
1	8	250	2000	0.419508	0.916928
2	8	250	2000	0.482495	1.399422
3	8	250	2000	0.455168	1.854590
4	8	250	2000	0.379807	2.234397
5	8	250	2000	0.339607	2.574004
6	8	250	2000	0.301316	2.875320
7	8	250	2000	0.266273	3.141593

Try 5

Runtime 5.70e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	250	2000	0.124355	0.124355
1	8	250	2000	0.379807	0.877227
2	8	250	2000	0.482495	1.359721
3	8	250	2000	0.455168	1.814890
4	8	250	2000	0.339607	2.154497
5	8	250	2000	0.301316	2.455812
6	8	250	2000	0.419508	2.875320
7	8	250	2000	0.266273	3.141593

8 Cores CPU - Size Problem 4000

Try 1

Runtime 6.20e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	500	4000	0.124355	0.124355
1	8	500	4000	0.482495	0.979915
2	8	500	4000	0.455168	1.435083
3	8	500	4000	0.419508	1.854590
4	8	500	4000	0.379807	2.234397
5	8	500	4000	0.339607	2.574004
6	8	500	4000	0.301316	2.875320
7	8	500	4000	0.266273	3.141593

Try 2

Runtime 5.80e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	500	4000	0.124355	0.124355
1	8	500	4000	0.419508	0.916928
2	8	500	4000	0.482495	1.399422
3	8	500	4000	0.455168	1.854590
4	8	500	4000	0.379807	2.234397
5	8	500	4000	0.301316	2.535713
6	8	500	4000	0.266273	2.801985
7	8	500	4000	0.339607	3.141593

Try 3

Runtime 7.25e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	500	4000	0.124355	0.124355
1	8	500	4000	0.301316	0.798736
2	8	500	4000	0.455168	1.253904
3	8	500	4000	0.419508	1.673411
4	8	500	4000	0.379807	2.053218
5	8	500	4000	0.339607	2.392825
6	8	500	4000	0.266273	2.659098

7	8	500	4000	0.482495	3.141593
---	---	-----	------	----------	----------

Try 4

Runtime 4.79e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	500	4000	0.124355	0.124355
1	8	500	4000	0.455168	0.952588
2	8	500	4000	0.419508	1.372096
3	8	500	4000	0.379807	1.751903
4	8	500	4000	0.301316	2.053218
5	8	500	4000	0.266273	2.319491
6	8	500	4000	0.482495	2.801985
7	8	500	4000	0.339607	3.141593

Try 5

Runtime 7.25e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	500	4000	0.124355	0.124355
1	8	500	4000	0.482495	0.979915
2	8	500	4000	0.455168	1.435083
3	8	500	4000	0.419508	1.854590
4	8	500	4000	0.379807	2.234397
5	8	500	4000	0.339607	2.574004
6	8	500	4000	0.301316	2.875320
7	8	500	4000	0.266273	3.141593
