

```
/*  
 * 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 20000      :1.57e-04:3.14e-04:2.41e-04:1.35e-04:1.67e-04
2 40000      :2.56e-04:4.70e-04:2.57e-04:2.56e-04:4.34e-04
4 20000      :8.10e-05:2.03e-04:2.19e-04:1.35e-04:1.89e-04
4 40000      :3.13e-04:1.94e-04:2.82e-04:3.32e-04:4.03e-04
6 20000      :1.24e-04:2.58e-04:2.37e-04:1.78e-04:1.50e-04
6 40000      :3.14e-04:1.53e-04:3.76e-04:1.71e-04:3.14e-04
8 20000      :1.42e-04:1.89e-04:2.02e-04:1.68e-04:1.58e-04
8 40000      :2.97e-04:2.57e-04:2.69e-04:3.13e-04:3.14e-04
```

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

2 20000      :7.55e-05:8.32e-05:4.68e-05:1.05e-04:7.36e-05
2 40000      :1.17e-04:1.42e-04:1.67e-04:8.80e-05:9.54e-05
4 20000      :6.90e-05:3.27e-05:6.09e-05:5.16e-05:5.44e-05
4 40000      :9.51e-05:9.24e-05:8.80e-05:1.05e-04:1.27e-04
6 20000      :6.85e-05:4.73e-05:6.45e-05:7.10e-05:4.95e-05
6 40000      :7.18e-05:1.05e-04:1.00e-04:7.57e-05:7.56e-05
8 20000      :8.68e-05:8.82e-05:8.90e-05:1.06e-04:1.27e-04
8 40000      :6.85e-05:9.43e-05:1.05e-04:9.69e-05:9.40e-05
```

```
/*
 * Speedup Report In %
 */

2 20000      :2.08e+02:3.77e+02:5.15e+02:1.29e+02:2.27e+02
2 40000      :2.19e+02:3.31e+02:1.54e+02:2.91e+02:4.55e+02
4 20000      :1.17e+02:6.21e+02:3.60e+02:2.62e+02:3.47e+02
4 40000      :3.29e+02:2.10e+02:3.20e+02:3.16e+02:3.17e+02
6 20000      :1.81e+02:5.45e+02:3.67e+02:2.51e+02:3.03e+02
6 40000      :4.37e+02:1.46e+02:3.76e+02:2.26e+02:4.15e+02
8 20000      :1.64e+02:2.14e+02:2.27e+02:1.58e+02:1.24e+02
8 40000      :4.34e+02:2.73e+02:2.56e+02:3.23e+02:3.34e+02
```

/*

* Parallel Calculation Report

*/

2 Cores CPU - Size Problem 20000

Try 1

Runtime 7.55e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	10000	20000	0.463648	0.463648
1	2	10000	20000	1.287002	3.141593

Try 2

Runtime 8.32e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	10000	20000	0.463648	0.463648
1	2	10000	20000	1.287002	3.141593

Try 3

Runtime 4.68e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	10000	20000	0.463648	0.463648
1	2	10000	20000	1.287002	3.141593

Try 4

Runtime 1.05e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	2	10000	20000	0.463648	0.463648
1	2	10000	20000	1.287002	3.141593

Try 5

Runtime 7.36e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	10000	20000	0.463648	0.463648
1	2	10000	20000	1.287002	3.141593

2 Cores CPU - Size Problem 40000

Try 1

Runtime 1.17e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	2	20000	40000	0.463648	0.463648
1	2	20000	40000	1.287002	3.141593

Try 2

Runtime 1.42e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	2	20000	40000	0.463648	0.463648
1	2	20000	40000	1.287002	3.141593

Try 3

Runtime 1.67e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	2	20000	40000	0.463648	0.463648
1	2	20000	40000	1.287002	3.141593

 Try 4

Runtime 8.80e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	20000	40000	0.463648	0.463648
1	2	20000	40000	1.287002	3.141593

Try 5

Runtime 9.54e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	20000	40000	0.463648	0.463648
1	2	20000	40000	1.287002	3.141593

4 Cores CPU - Size Problem 20000

Try 1

Runtime 6.90e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	5000	20000	0.244979	0.244979
1	4	5000	20000	0.567588	1.547503
2	4	5000	20000	0.874676	2.422179
3	4	5000	20000	0.719414	3.141593

Try 2

Runtime 3.27e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	5000	20000	0.244979	0.244979
1	4	5000	20000	0.874676	1.854590
2	4	5000	20000	0.719414	2.574004
3	4	5000	20000	0.567588	3.141593

Try 3

Runtime 6.09e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	5000	20000	0.244979	0.244979
1	4	5000	20000	0.874676	1.854590
2	4	5000	20000	0.567588	2.422179
3	4	5000	20000	0.719414	3.141593

Try 4

Runtime 5.16e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	5000	20000	0.244979	0.244979
1	4	5000	20000	0.567588	1.547503
2	4	5000	20000	0.874676	2.422179
3	4	5000	20000	0.719414	3.141593

Try 5

Runtime 5.44e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	5000	20000	0.244979	0.244979
1	4	5000	20000	0.874676	1.854590
2	4	5000	20000	0.719414	2.574004
3	4	5000	20000	0.567588	3.141593

4 Cores CPU - Size Problem 40000

Try 1

Runtime 9.51e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	10000	40000	0.244979	0.244979
1	4	10000	40000	0.567588	1.547503
2	4	10000	40000	0.874676	2.422179
3	4	10000	40000	0.719414	3.141593

Try 2

Runtime 9.24e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	10000	40000	0.244979	0.244979
1	4	10000	40000	0.719414	1.699329
2	4	10000	40000	0.874676	2.574004
3	4	10000	40000	0.567588	3.141593

Try 3

Runtime 8.80e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	10000	40000	0.244979	0.244979
1	4	10000	40000	0.567588	1.547503
2	4	10000	40000	0.719414	2.266917
3	4	10000	40000	0.874676	3.141593

Try 4

Runtime 1.05e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	4	10000	40000	0.244979	0.244979
1	4	10000	40000	0.719414	1.699329
2	4	10000	40000	0.874676	2.574004
3	4	10000	40000	0.567588	3.141593

Try 5

Runtime 1.27e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	4	10000	40000	0.244979	0.244979
1	4	10000	40000	0.874676	1.854590
2	4	10000	40000	0.719414	2.574004
3	4	10000	40000	0.567588	3.141593

6 Cores CPU - Size Problem 20000

Try 1

Runtime 6.85e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	3333	20000	0.165181	0.165181
1	6	3333	20000	0.626528	1.287252
2	6	3333	20000	0.567695	1.854947
3	6	3333	20000	0.497512	2.352459
4	6	3333	20000	0.427021	2.779480
5	6	3333	20000	0.362706	3.142187

Try 2

Runtime 4.73e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	3333	20000	0.165181	0.165181
1	6	3333	20000	0.567695	1.228419
2	6	3333	20000	0.497512	1.725932

3	6	3333	20000	0.427021	2.152953
4	6	3333	20000	0.362706	2.515659
5	6	3333	20000	0.626528	3.142187

Try 3

Runtime 6.45e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	3333	20000	0.165181	0.165181
1	6	3333	20000	0.362706	1.023431
2	6	3333	20000	0.567695	1.591126
3	6	3333	20000	0.427021	2.018147
4	6	3333	20000	0.626528	2.644674
5	6	3333	20000	0.497512	3.142187

Try 4

Runtime 7.10e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	3333	20000	0.165181	0.165181
1	6	3333	20000	0.626528	1.287252
2	6	3333	20000	0.567695	1.854947
3	6	3333	20000	0.497512	2.352459
4	6	3333	20000	0.427021	2.779480
5	6	3333	20000	0.362706	3.142187

Try 5

Runtime 4.95e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	3333	20000	0.165181	0.165181
1	6	3333	20000	0.362706	1.023431
2	6	3333	20000	0.427021	1.450452
3	6	3333	20000	0.567695	2.018147
4	6	3333	20000	0.626528	2.644674
5	6	3333	20000	0.497512	3.142187

6 Cores CPU - Size Problem 40000

Try 1

Runtime 7.18e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	6666	40000	0.165157	0.165157
1	6	6666	40000	0.426962	1.087590
2	6	6666	40000	0.362656	1.450246
3	6	6666	40000	0.567615	2.017861
4	6	6666	40000	0.626438	2.644298
5	6	6666	40000	0.497443	3.141741

Try 2

Runtime 1.05e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	6666	40000	0.165157	0.165157
1	6	6666	40000	0.626438	1.287065
2	6	6666	40000	0.567615	1.854680
3	6	6666	40000	0.497443	2.352123
4	6	6666	40000	0.426962	2.779085
5	6	6666	40000	0.362656	3.141741

Try 3

Runtime 1.00e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	6666	40000	0.165157	0.165157

1	6	6666	40000	0.567615	1.228242
2	6	6666	40000	0.626438	1.854680
3	6	6666	40000	0.497443	2.352123
4	6	6666	40000	0.426962	2.779085
5	6	6666	40000	0.362656	3.141741

Try 4

Runtime 7.57e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	6666	40000	0.165157	0.165157
1	6	6666	40000	0.497443	1.158070
2	6	6666	40000	0.626438	1.784508
3	6	6666	40000	0.426962	2.211470
4	6	6666	40000	0.362656	2.574126
5	6	6666	40000	0.567615	3.141741

Try 5

Runtime 7.56e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	6666	40000	0.165157	0.165157
1	6	6666	40000	0.426962	1.087590
2	6	6666	40000	0.362656	1.450246
3	6	6666	40000	0.567615	2.017861
4	6	6666	40000	0.626438	2.644298
5	6	6666	40000	0.497443	3.141741

8 Cores CPU - Size Problem 20000

Try 1

Runtime 8.68e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	2500	20000	0.124355	0.124355
1	8	2500	20000	0.379807	0.877227
2	8	2500	20000	0.455168	1.332395
3	8	2500	20000	0.301316	1.633710
4	8	2500	20000	0.419508	2.053218
5	8	2500	20000	0.339607	2.392825
6	8	2500	20000	0.266273	2.659098
7	8	2500	20000	0.482495	3.141593

Try 2

Runtime 8.82e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	2500	20000	0.124355	0.124355
1	8	2500	20000	0.301316	0.798736
2	8	2500	20000	0.455168	1.253904
3	8	2500	20000	0.419508	1.673411
4	8	2500	20000	0.379807	2.053218
5	8	2500	20000	0.266273	2.319491
6	8	2500	20000	0.482495	2.801985
7	8	2500	20000	0.339607	3.141593

Try 3

Runtime 8.90e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	2500	20000	0.124355	0.124355
1	8	2500	20000	0.379807	0.877227
2	8	2500	20000	0.455168	1.332395
3	8	2500	20000	0.301316	1.633710
4	8	2500	20000	0.266273	1.899983
5	8	2500	20000	0.482495	2.382478
6	8	2500	20000	0.419508	2.801985

7	8	2500	20000	0.339607	3.141593
---	---	------	-------	----------	----------

Try 4

Runtime 1.06e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	2500	20000	0.124355	0.124355
1	8	2500	20000	0.301316	0.798736
2	8	2500	20000	0.482495	1.281230
3	8	2500	20000	0.455168	1.736398
4	8	2500	20000	0.419508	2.155906
5	8	2500	20000	0.379807	2.535713
6	8	2500	20000	0.339607	2.875320
7	8	2500	20000	0.266273	3.141593

Try 5

Runtime 1.27e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	2500	20000	0.124355	0.124355
1	8	2500	20000	0.379807	0.877227
2	8	2500	20000	0.482495	1.359721
3	8	2500	20000	0.455168	1.814890
4	8	2500	20000	0.419508	2.234397
5	8	2500	20000	0.339607	2.574004
6	8	2500	20000	0.301316	2.875320
7	8	2500	20000	0.266273	3.141593

8 Cores CPU - Size Problem 40000

Try 1

Runtime 6.85e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	5000	40000	0.124355	0.124355
1	8	5000	40000	0.455168	0.952588
2	8	5000	40000	0.379807	1.332395
3	8	5000	40000	0.339607	1.672002
4	8	5000	40000	0.301316	1.973318
5	8	5000	40000	0.266273	2.239590
6	8	5000	40000	0.482495	2.722085
7	8	5000	40000	0.419508	3.141593

Try 2

Runtime 9.43e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	5000	40000	0.124355	0.124355
1	8	5000	40000	0.482495	0.979915
2	8	5000	40000	0.455168	1.435083
3	8	5000	40000	0.419508	1.854590
4	8	5000	40000	0.379807	2.234397
5	8	5000	40000	0.339607	2.574004
6	8	5000	40000	0.301316	2.875320
7	8	5000	40000	0.266273	3.141593

Try 3

Runtime 1.05e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	5000	40000	0.124355	0.124355
1	8	5000	40000	0.482495	0.979915
2	8	5000	40000	0.339607	1.319522
3	8	5000	40000	0.455168	1.774690
4	8	5000	40000	0.419508	2.194198
5	8	5000	40000	0.379807	2.574004
6	8	5000	40000	0.301316	2.875320

7	8	5000	40000	0.266273	3.141593
---	---	------	-------	----------	----------

Try 4

Runtime 9.69e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	5000	40000	0.124355	0.124355
1	8	5000	40000	0.455168	0.952588
2	8	5000	40000	0.482495	1.435083
3	8	5000	40000	0.419508	1.854590
4	8	5000	40000	0.379807	2.234397
5	8	5000	40000	0.339607	2.574004
6	8	5000	40000	0.301316	2.875320
7	8	5000	40000	0.266273	3.141593

Try 5

Runtime 9.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	5000	40000	0.124355	0.124355
1	8	5000	40000	0.482495	0.979915
2	8	5000	40000	0.455168	1.435083
3	8	5000	40000	0.419508	1.854590
4	8	5000	40000	0.379807	2.234397
5	8	5000	40000	0.339607	2.574004
6	8	5000	40000	0.301316	2.875320
7	8	5000	40000	0.266273	3.141593
