

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

2 800    4.00e-06 5.00e-06 4.00e-06 4.00e-06 4.00e-06
2 1600   7.00e-06 1.70e-05 7.00e-06 7.00e-06 7.00e-06
4 800    5.00e-06 4.00e-06 4.00e-06 4.00e-06 1.40e-05
4 1600   7.00e-06 7.00e-06 7.00e-06 7.00e-06 7.00e-06
6 800    4.00e-06 6.00e-06 1.40e-05 5.00e-06 4.00e-06
6 1600   7.00e-06 9.00e-06 7.00e-06 7.00e-06 1.40e-05
8 800    4.00e-06 4.00e-06 3.00e-06 4.00e-06 6.00e-06
8 1600   7.00e-06 7.00e-06 7.00e-06 7.00e-06 7.00e-06
```

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

2 800    2.21e-05 5.60e-05 7.86e-06 8.39e-06 1.06e-05
2 1600   9.74e-06 1.33e-05 2.31e-05 1.22e-05 1.53e-05
4 800    1.87e-05 9.14e-06 1.88e-05 1.58e-05 1.41e-05
4 1600   1.86e-05 1.40e-05 1.65e-05 1.61e-05 1.37e-05
6 800    1.55e-05 2.90e-05 4.12e-05 4.12e-05 2.06e-05
6 1600   1.85e-05 1.34e-05 2.21e-05 4.58e-05 4.68e-05
8 800    1.08e-05 5.40e-05 1.04e-04 5.03e-05 9.44e-05
8 1600   6.82e-05 1.27e-05 5.03e-05 9.76e-06 3.92e-05
```

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

```
/* CPU */
```

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

```
/* Calculation Reports */
```

```
2 Cores CPU - Size Problem 800
```

```
Try 1
```

```
Runtime 2.21e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	400	800	0.463648	0.463648
1	2	400	800	1.287002	3.141593

```
-----
Try 2
```

```
Runtime 5.60e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	400	800	0.463648	0.463648
1	2	400	800	1.287002	3.141593

```
-----
Try 3
```

```
Runtime 7.86e-06 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	400	800	0.463648	0.463648
1	2	400	800	1.287002	3.141593

```
-----
Try 4
```

```
Runtime 8.39e-06 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	400	800	0.463648	0.463648
1	2	400	800	1.287002	3.141593

```
-----
Try 5
```

```
Runtime 1.06e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	400	800	0.463648	0.463648
1	2	400	800	1.287002	3.141593

```
-----
2 Cores CPU - Size Problem 1600
```

```
Try 1
```

```
Runtime 9.74e-06 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

```
-----
Try 2
```

```
Runtime 1.33e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

Try 3

Runtime 2.31e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

Try 4

Runtime 1.22e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

Try 5

Runtime 1.53e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	800	1600	0.463648	0.463648
1	2	800	1600	1.287002	3.141593

4 Cores CPU - Size Problem 800

Try 1

Runtime 1.87e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	200	800	0.244979	0.244979
1	4	200	800	0.719414	1.699329
2	4	200	800	0.874676	2.574005
3	4	200	800	0.567588	3.141593

Try 2

Runtime 9.14e-06 [s]

Process	Total	problemSize	Total	Local	Total
0	4	200	800	0.244979	0.244979
1	4	200	800	0.719414	1.699329
2	4	200	800	0.874676	2.574005
3	4	200	800	0.567588	3.141593

Try 3

Runtime 1.88e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	200	800	0.244979	0.244979
1	4	200	800	0.874676	1.854591
2	4	200	800	0.719414	2.574005
3	4	200	800	0.567588	3.141593

Try 4

Runtime 1.58e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	200	800	0.244979	0.244979
1	4	200	800	0.719414	1.699329
2	4	200	800	0.874676	2.574005
3	4	200	800	0.567588	3.141593

Try 5

Runtime 1.41e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	200	800	0.244979	0.244979
1	4	200	800	0.719414	1.699329
2	4	200	800	0.874676	2.574005
3	4	200	800	0.567588	3.141593

4 Cores CPU - Size Problem 1600

Try 1

Runtime 1.86e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	400	1600	0.244979	0.244979
1	4	400	1600	0.719414	1.699329
2	4	400	1600	0.874676	2.574004
3	4	400	1600	0.567588	3.141593

Try 2

Runtime 1.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	400	1600	0.244979	0.244979
1	4	400	1600	0.567588	1.547503
2	4	400	1600	0.874676	2.422179
3	4	400	1600	0.719414	3.141593

Try 3

Runtime 1.65e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	400	1600	0.244979	0.244979
1	4	400	1600	0.874676	1.854590
2	4	400	1600	0.719414	2.574004
3	4	400	1600	0.567588	3.141593

Try 4

Runtime 1.61e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	400	1600	0.244979	0.244979
1	4	400	1600	0.874676	1.854590
2	4	400	1600	0.719414	2.574004
3	4	400	1600	0.567588	3.141593

Try 5

Runtime 1.37e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	400	1600	0.244979	0.244979
1	4	400	1600	0.874676	1.854590
2	4	400	1600	0.719414	2.574004
3	4	400	1600	0.567588	3.141593

6 Cores CPU - Size Problem 800

Try 1

Runtime 1.55e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	133	800	0.165959	0.165959
1	6	133	800	0.364306	1.028143
2	6	133	800	0.629407	1.657550
3	6	133	800	0.499727	2.157277
4	6	133	800	0.570254	2.727531

5	6	133	800	0.428909	3.156440
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Try 2

Runtime 2.90e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	133	800	0.165959	0.165959
1	6	133	800	0.428909	1.092747
2	6	133	800	0.629407	1.722153
3	6	133	800	0.570254	2.292408
4	6	133	800	0.499727	2.792134
5	6	133	800	0.364306	3.156440

Try 3

Runtime 4.12e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	133	800	0.165959	0.165959
1	6	133	800	0.428909	1.092747
2	6	133	800	0.629407	1.722153
3	6	133	800	0.570254	2.292408
4	6	133	800	0.499727	2.792134
5	6	133	800	0.364306	3.156440

Try 4

Runtime 4.12e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	133	800	0.165959	0.165959
1	6	133	800	0.570254	1.234092
2	6	133	800	0.428909	1.663001
3	6	133	800	0.629407	2.292408
4	6	133	800	0.364306	2.656713
5	6	133	800	0.499727	3.156440

Try 5

Runtime 2.06e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	133	800	0.165959	0.165959
1	6	133	800	0.428909	1.092747
2	6	133	800	0.570254	1.663001
3	6	133	800	0.364306	2.027306
4	6	133	800	0.499727	2.527033
5	6	133	800	0.629407	3.156440

6 Cores CPU - Size Problem 1600

Try 1

Runtime 1.85e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	266	1600	0.165351	0.165351
1	6	266	1600	0.568255	1.229660
2	6	266	1600	0.627157	1.856818
3	6	266	1600	0.497997	2.354815
4	6	266	1600	0.427434	2.782249
5	6	266	1600	0.363056	3.145305

Try 2

Runtime 1.34e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	266	1600	0.165351	0.165351
1	6	266	1600	0.627157	1.288563
2	6	266	1600	0.568255	1.856818

3	6	266	1600	0.497997	2.354815
4	6	266	1600	0.363056	2.717871
5	6	266	1600	0.427434	3.145305

Try 3

Runtime 2.21e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	266	1600	0.165351	0.165351
1	6	266	1600	0.568255	1.229660
2	6	266	1600	0.427434	1.657095
3	6	266	1600	0.627157	2.284252
4	6	266	1600	0.363056	2.647308
5	6	266	1600	0.497997	3.145305

Try 4

Runtime 4.58e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	266	1600	0.165351	0.165351
1	6	266	1600	0.363056	1.024462
2	6	266	1600	0.627157	1.651619
3	6	266	1600	0.568255	2.219874
4	6	266	1600	0.497997	2.717871
5	6	266	1600	0.427434	3.145305

Try 5

Runtime 4.68e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	266	1600	0.165351	0.165351
1	6	266	1600	0.363056	1.024462
2	6	266	1600	0.627157	1.651619
3	6	266	1600	0.568255	2.219874
4	6	266	1600	0.497997	2.717871
5	6	266	1600	0.427434	3.145305

8 Cores CPU - Size Problem 800

Try 1

Runtime 1.08e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	100	800	0.124355	0.124355
1	8	100	800	0.482495	0.979915
2	8	100	800	0.455168	1.435083
3	8	100	800	0.419508	1.854591
4	8	100	800	0.379807	2.234397
5	8	100	800	0.339607	2.574005
6	8	100	800	0.301316	2.875320
7	8	100	800	0.266273	3.141593

Try 2

Runtime 5.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	100	800	0.124355	0.124355
1	8	100	800	0.379807	0.877227
2	8	100	800	0.339607	1.216834
3	8	100	800	0.482495	1.699329
4	8	100	800	0.455168	2.154497
5	8	100	800	0.419508	2.574005
6	8	100	800	0.301316	2.875320
7	8	100	800	0.266273	3.141593

Try 3

Runtime 1.04e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	100	800	0.124355	0.124355
1	8	100	800	0.379807	0.877227
2	8	100	800	0.482495	1.359722
3	8	100	800	0.455168	1.814890
4	8	100	800	0.419508	2.234397
5	8	100	800	0.339607	2.574005
6	8	100	800	0.301316	2.875320
7	8	100	800	0.266273	3.141593

Try 4

Runtime 5.03e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	100	800	0.124355	0.124355
1	8	100	800	0.482495	0.979915
2	8	100	800	0.339607	1.319522
3	8	100	800	0.455168	1.774690
4	8	100	800	0.379807	2.154497
5	8	100	800	0.301316	2.455812
6	8	100	800	0.266273	2.722085
7	8	100	800	0.419508	3.141593

Try 5

Runtime 9.44e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	100	800	0.124355	0.124355
1	8	100	800	0.455168	0.952588
2	8	100	800	0.482495	1.435083
3	8	100	800	0.419508	1.854591
4	8	100	800	0.379807	2.234397
5	8	100	800	0.339607	2.574005
6	8	100	800	0.301316	2.875320
7	8	100	800	0.266273	3.141593

8 Cores CPU - Size Problem 1600

Try 1

Runtime 6.82e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	200	1600	0.124355	0.124355
1	8	200	1600	0.379807	0.877227
2	8	200	1600	0.455168	1.332395
3	8	200	1600	0.301316	1.633710
4	8	200	1600	0.266273	1.899983
5	8	200	1600	0.419508	2.319491
6	8	200	1600	0.339607	2.659098
7	8	200	1600	0.482495	3.141593

Try 2

Runtime 1.27e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	200	1600	0.124355	0.124355
1	8	200	1600	0.482495	0.979915
2	8	200	1600	0.455168	1.435083
3	8	200	1600	0.419508	1.854590
4	8	200	1600	0.379807	2.234397
5	8	200	1600	0.339607	2.574004
6	8	200	1600	0.301316	2.875320
7	8	200	1600	0.266273	3.141593

Try 3

Runtime 5.03e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	200	1600	0.124355	0.124355
1	8	200	1600	0.455168	0.952588
2	8	200	1600	0.379807	1.332395
3	8	200	1600	0.419508	1.751903
4	8	200	1600	0.482495	2.234397
5	8	200	1600	0.266273	2.500670
6	8	200	1600	0.339607	2.840277
7	8	200	1600	0.301316	3.141593

Try 4

Runtime 9.76e-06 [s]

Process	Total	problemSize	Total	Local	Total
0	8	200	1600	0.124355	0.124355
1	8	200	1600	0.482495	0.979915
2	8	200	1600	0.419508	1.399422
3	8	200	1600	0.379807	1.779229
4	8	200	1600	0.339607	2.118836
5	8	200	1600	0.301316	2.420152
6	8	200	1600	0.266273	2.686425
7	8	200	1600	0.455168	3.141593

Try 5

Runtime 3.92e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	200	1600	0.124355	0.124355
1	8	200	1600	0.455168	0.952588
2	8	200	1600	0.482495	1.435083
3	8	200	1600	0.379807	1.814890
4	8	200	1600	0.419508	2.234397
5	8	200	1600	0.301316	2.535713
6	8	200	1600	0.266273	2.801986
7	8	200	1600	0.339607	3.141593