

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

2 100    1.20e-05 1.60e-05 1.10e-05 1.50e-05 1.60e-05
2 200    1.90e-05 2.00e-05 1.70e-05 1.80e-05 1.50e-05
4 100    1.20e-05 1.20e-05 1.40e-05 1.40e-05 1.50e-05
4 200    1.90e-05 1.60e-05 1.40e-05 1.40e-05 1.60e-05
6 100    1.20e-05 1.30e-05 1.40e-05 1.80e-05 1.80e-05
6 200    2.20e-05 1.60e-05 1.50e-05 1.70e-05 1.50e-05
8 100    1.50e-05 1.20e-05 1.20e-05 2.30e-05 1.20e-05
8 200    1.70e-05 1.70e-05 1.90e-05 1.40e-05 1.60e-05
```

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

2 100    2.30e-05 2.50e-05 9.00e-06 1.20e-05 1.10e-05
2 200    1.20e-05 1.20e-05 2.00e-05 9.40e-05 8.00e-06
4 100    1.10e-04 5.40e-05 5.30e-05 2.90e-05 7.80e-05
4 200    1.60e-05 2.20e-05 1.70e-05 5.89e-04 1.45e-04
6 100    3.40e-05 9.00e-05 2.50e-05 9.00e-05 1.07e-04
6 200    1.23e-04 1.17e-04 1.40e-04 2.01e-04 2.80e-05
8 100    1.14e-04 1.30e-04 2.55e-04 5.50e-05 1.04e-04
8 200    1.31e-04 4.70e-05 6.54e-04 2.06e-04 5.00e-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 100
```

```
Try 1
```

```
Runtime 2.30e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	50	100	1.458325	1.458325
1	2	50	100	1.208325	2.666650

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

```
Runtime 2.50e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	50	100	1.458325	1.458325
1	2	50	100	1.208325	2.666650

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

```
Runtime 9.00e-06 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	50	100	1.458325	1.458325
1	2	50	100	1.208325	2.666650

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

```
Runtime 1.20e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	50	100	1.458325	1.458325
1	2	50	100	1.208325	2.666650

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

```
Runtime 1.10e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	50	100	1.458325	1.458325
1	2	50	100	1.208325	2.666650

```
-----
2 Cores CPU - Size Problem 200
```

```
Try 1
```

```
Runtime 1.20e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
0	2	100	200	1.458331	1.458331
1	2	100	200	1.208331	2.666663

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

```
Runtime 1.20e-05 [s]
```

Process	Total	problemSize	Total	Local	Total
---------	-------	-------------	-------	-------	-------

0	2	100	200	1.458331	1.458331
1	2	100	200	1.208331	2.666663

-----  
Try 3

Runtime 2.00e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	100	200	1.458331	1.458331
1	2	100	200	1.208331	2.666663

-----  
Try 4

Runtime 9.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	2	100	200	1.458331	1.458331
1	2	100	200	1.208331	2.666663

-----  
Try 5

Runtime 8.00e-06 [s]

Process	Total	problemSize	Total	Local	Total
0	2	100	200	1.458331	1.458331
1	2	100	200	1.208331	2.666663

-----  
4 Cores CPU - Size Problem 100

Try 1

Runtime 1.10e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	4	25	100	0.744788	0.744788
1	4	25	100	0.713538	1.458325
2	4	25	100	0.651037	2.109363
3	4	25	100	0.557288	2.666650

-----  
Try 2

Runtime 5.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	25	100	0.744788	0.744788
1	4	25	100	0.713538	1.458325
2	4	25	100	0.651037	2.109363
3	4	25	100	0.557288	2.666650

-----  
Try 3

Runtime 5.30e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	25	100	0.744788	0.744788
1	4	25	100	0.713538	1.458325
2	4	25	100	0.651037	2.109363
3	4	25	100	0.557288	2.666650

-----  
Try 4

Runtime 2.90e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	25	100	0.744788	0.744788
1	4	25	100	0.713538	1.458325
2	4	25	100	0.651037	2.109363
3	4	25	100	0.557288	2.666650

-----  
Try 5

Runtime 7.80e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	25	100	0.744788	0.744788
1	4	25	100	0.713538	1.458325
2	4	25	100	0.651037	2.109363
3	4	25	100	0.557288	2.666650

---

## 4 Cores CPU - Size Problem 200

Try 1

Runtime 1.60e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	50	200	0.744791	0.744791
1	4	50	200	0.713541	1.458331
2	4	50	200	0.651041	2.109372
3	4	50	200	0.557291	2.666663

---

Try 2

Runtime 2.20e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	50	200	0.744791	0.744791
1	4	50	200	0.713541	1.458331
2	4	50	200	0.651041	2.109372
3	4	50	200	0.557291	2.666663

---

Try 3

Runtime 1.70e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	4	50	200	0.744791	0.744791
1	4	50	200	0.713541	1.458331
2	4	50	200	0.651041	2.109372
3	4	50	200	0.557291	2.666663

---

Try 4

Runtime 5.89e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	4	50	200	0.744791	0.744791
1	4	50	200	0.713541	1.458331
2	4	50	200	0.651041	2.109372
3	4	50	200	0.557291	2.666663

---

Try 5

Runtime 1.45e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	4	50	200	0.744791	0.744791
1	4	50	200	0.713541	1.458331
2	4	50	200	0.651041	2.109372
3	4	50	200	0.557291	2.666663

---

## 6 Cores CPU - Size Problem 100

Try 1

Runtime 3.40e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	16	100	0.478632	0.478632
1	6	16	100	0.470440	0.949072
2	6	16	100	0.454056	1.403128
3	6	16	100	0.429480	1.832608
4	6	16	100	0.396712	2.229320

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5	6	16	100	0.355752	2.585072
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Try 2

Runtime 9.00e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	16	100	0.478632	0.478632
1	6	16	100	0.470440	0.949072
2	6	16	100	0.454056	1.403128
3	6	16	100	0.429480	1.832608
4	6	16	100	0.396712	2.229320
5	6	16	100	0.355752	2.585072

---

Try 3

Runtime 2.50e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	16	100	0.478632	0.478632
1	6	16	100	0.470440	0.949072
2	6	16	100	0.454056	1.403128
3	6	16	100	0.429480	1.832608
4	6	16	100	0.396712	2.229320
5	6	16	100	0.355752	2.585072

---

Try 4

Runtime 9.00e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	16	100	0.478632	0.478632
1	6	16	100	0.470440	0.949072
2	6	16	100	0.454056	1.403128
3	6	16	100	0.429480	1.832608
4	6	16	100	0.396712	2.229320
5	6	16	100	0.355752	2.585072

---

Try 5

Runtime 1.07e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	16	100	0.478632	0.478632
1	6	16	100	0.470440	0.949072
2	6	16	100	0.454056	1.403128
3	6	16	100	0.429480	1.832608
4	6	16	100	0.396712	2.229320
5	6	16	100	0.355752	2.585072

---

6 Cores CPU - Size Problem 200

Try 1

Runtime 1.23e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	33	200	0.493502	0.493502
1	6	33	200	0.484518	0.978020
2	6	33	200	0.466549	1.444569
3	6	33	200	0.439596	1.884165
4	6	33	200	0.403659	2.287825
5	6	33	200	0.358738	2.646563

---

Try 2

Runtime 1.17e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	33	200	0.493502	0.493502
1	6	33	200	0.484518	0.978020
2	6	33	200	0.466549	1.444569

3	6	33	200	0.439596	1.884165
4	6	33	200	0.403659	2.287825
5	6	33	200	0.358738	2.646563

-----  
Try 3

Runtime 1.40e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	33	200	0.493502	0.493502
1	6	33	200	0.484518	0.978020
2	6	33	200	0.466549	1.444569
3	6	33	200	0.439596	1.884165
4	6	33	200	0.403659	2.287825
5	6	33	200	0.358738	2.646563

-----  
Try 4

Runtime 2.01e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	6	33	200	0.493502	0.493502
1	6	33	200	0.484518	0.978020
2	6	33	200	0.466549	1.444569
3	6	33	200	0.439596	1.884165
4	6	33	200	0.403659	2.287825
5	6	33	200	0.358738	2.646563

-----  
Try 5

Runtime 2.80e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	6	33	200	0.493502	0.493502
1	6	33	200	0.484518	0.978020
2	6	33	200	0.466549	1.444569
3	6	33	200	0.439596	1.884165
4	6	33	200	0.403659	2.287825
5	6	33	200	0.358738	2.646563

-----  
8 Cores CPU - Size Problem 100

Try 1

Runtime 1.14e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	12	100	0.359422	0.359422
1	8	12	100	0.355966	0.715388
2	8	12	100	0.349054	1.064442
3	8	12	100	0.338686	1.403128
4	8	12	100	0.324862	1.727990
5	8	12	100	0.307582	2.035572
6	8	12	100	0.286846	2.322418
7	8	12	100	0.262654	2.585072

-----  
Try 2

Runtime 1.30e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	12	100	0.359422	0.359422
1	8	12	100	0.355966	0.715388
2	8	12	100	0.349054	1.064442
3	8	12	100	0.338686	1.403128
4	8	12	100	0.324862	1.727990
5	8	12	100	0.307582	2.035572
6	8	12	100	0.286846	2.322418
7	8	12	100	0.262654	2.585072

-----  
Try 3

Runtime 2.55e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	12	100	0.359422	0.359422
1	8	12	100	0.355966	0.715388
2	8	12	100	0.349054	1.064442
3	8	12	100	0.338686	1.403128
4	8	12	100	0.324862	1.727990
5	8	12	100	0.307582	2.035572
6	8	12	100	0.286846	2.322418
7	8	12	100	0.262654	2.585072

-----  
Try 4

Runtime 5.50e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	12	100	0.359422	0.359422
1	8	12	100	0.355966	0.715388
2	8	12	100	0.349054	1.064442
3	8	12	100	0.338686	1.403128
4	8	12	100	0.324862	1.727990
5	8	12	100	0.307582	2.035572
6	8	12	100	0.286846	2.322418
7	8	12	100	0.262654	2.585072

-----  
Try 5

Runtime 1.04e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	12	100	0.359422	0.359422
1	8	12	100	0.355966	0.715388
2	8	12	100	0.349054	1.064442
3	8	12	100	0.338686	1.403128
4	8	12	100	0.324862	1.727990
5	8	12	100	0.307582	2.035572
6	8	12	100	0.286846	2.322418
7	8	12	100	0.262654	2.585072

-----  
8 Cores CPU - Size Problem 200

Try 1

Runtime 1.31e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	25	200	0.374348	0.374348
1	8	25	200	0.370442	0.744791
2	8	25	200	0.362630	1.107420
3	8	25	200	0.350911	1.458331
4	8	25	200	0.335286	1.793617
5	8	25	200	0.315755	2.109372
6	8	25	200	0.292317	2.401689
7	8	25	200	0.264973	2.666663

-----  
Try 2

Runtime 4.70e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	25	200	0.374348	0.374348
1	8	25	200	0.370442	0.744791
2	8	25	200	0.362630	1.107420
3	8	25	200	0.350911	1.458331
4	8	25	200	0.335286	1.793617
5	8	25	200	0.315755	2.109372
6	8	25	200	0.292317	2.401689
7	8	25	200	0.264973	2.666663

-----  
Try 3



Runtime 6.54e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	25	200	0.374348	0.374348
1	8	25	200	0.370442	0.744791
2	8	25	200	0.362630	1.107420
3	8	25	200	0.350911	1.458331
4	8	25	200	0.335286	1.793617
5	8	25	200	0.315755	2.109372
6	8	25	200	0.292317	2.401689
7	8	25	200	0.264973	2.666663

---

Try 4

Runtime 2.06e-04 [s]

Process	Total	problemSize	Total	Local	Total
0	8	25	200	0.374348	0.374348
1	8	25	200	0.370442	0.744791
2	8	25	200	0.362630	1.107420
3	8	25	200	0.350911	1.458331
4	8	25	200	0.335286	1.793617
5	8	25	200	0.315755	2.109372
6	8	25	200	0.292317	2.401689
7	8	25	200	0.264973	2.666663

---

Try 5

Runtime 5.00e-05 [s]

Process	Total	problemSize	Total	Local	Total
0	8	25	200	0.374348	0.374348
1	8	25	200	0.370442	0.744791
2	8	25	200	0.362630	1.107420
3	8	25	200	0.350911	1.458331
4	8	25	200	0.335286	1.793617
5	8	25	200	0.315755	2.109372
6	8	25	200	0.292317	2.401689
7	8	25	200	0.264973	2.666663

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