README

1. To compile the c file:
gcc pth-gauss1.c hrtimer_x86.c –lpthread
or: gcc pth-gauss2.c hrtimer_x86.c –lpthread

ps: pth-gauss1 is the Row Oriented Method and pth-gauss2 is the Column Oriented Method.
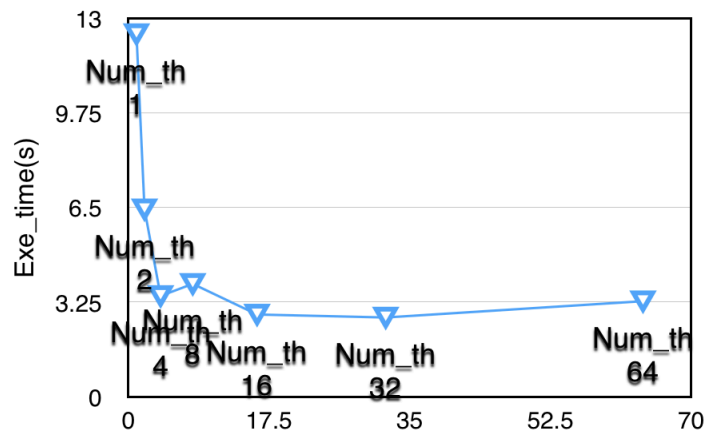
2. And the input data format is:

./a.out –s2048 –p32

where the number after s indicate matrix size or problem size, and number after p indicate the number of threads.

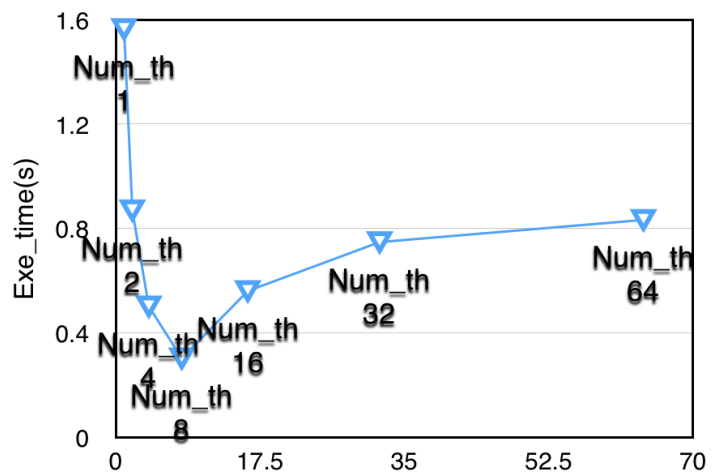3.1 Results for Row Oriented Method
3.1.1 Cycle3
a) s = 2048

Num_th	Exe_time(s)
1	12.4579
2	6.4395
4	3.4615
8	3.8771
16	2.8249
32	2.7215
64	3.2815

b) s = 1024

Num_th	Exe_time(s)
1	1.5644
2	0.8696
4	0.5014
8	0.3023
16	0.5603
32	0.7479
64	0.8329

c) s = 512

Num_th	Exe_time(s)
1	0.2224
2	0.1292
4	0.1009
8	0.0712
16	0.1074
32	0.1883
64	0.4226
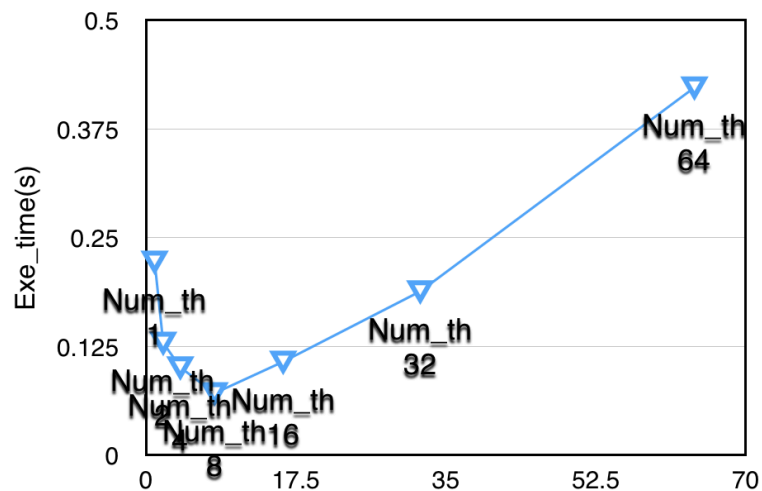
d) s = 256

Num_th	Exe_time(s)
1	0.0410
2	0.0425
4	0.0256
8	0.0285
16	0.0513
32	0.1257
64	0.1925
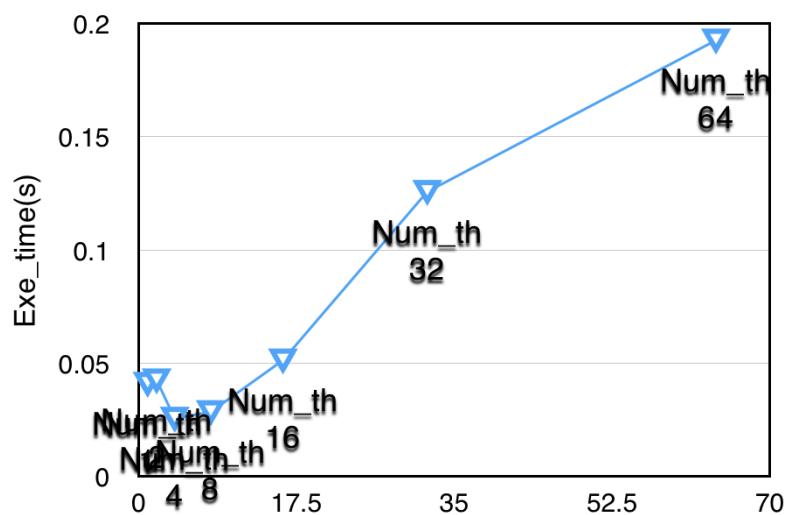
e) s = 128

Num_th	Exe_time(s)
1	0.0063
2	0.0073
4	0.0082
8	0.0133
16	0.0250
32	0.0612
64	0.1054
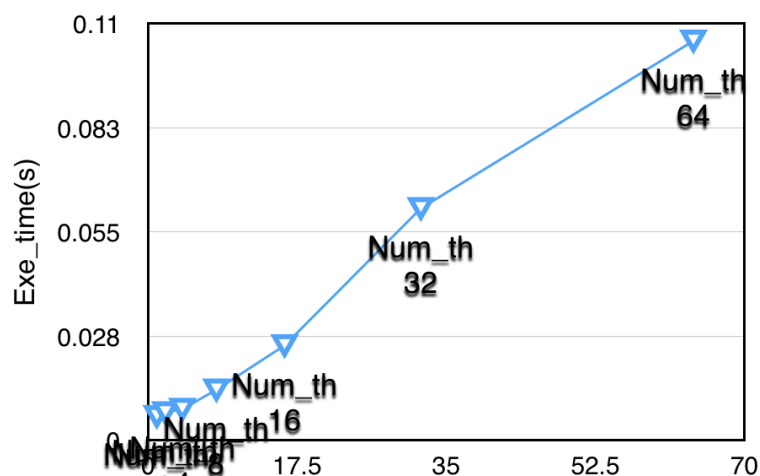
3.1.2 Cycle2

a) s = 2048

Num_th	Exe_time(s)
1	18.4631
2	14.8976
4	7.6991
8	7.7360
16	6.6679
32	7.9804
64	11.9222
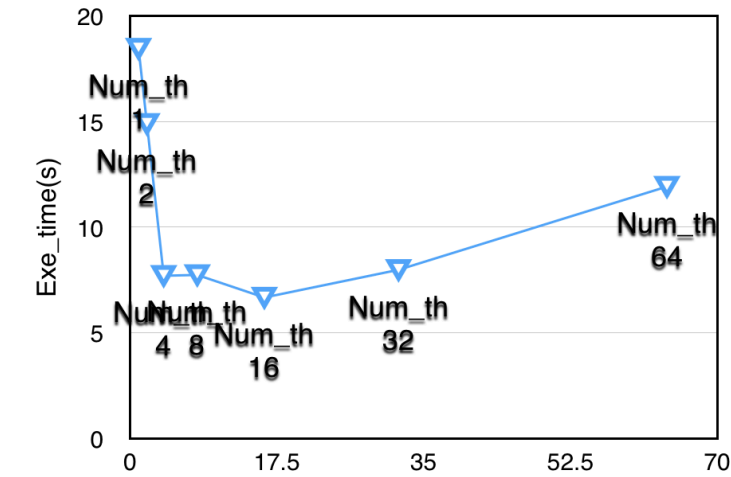
b) s = 1024

Num_th	Exe_time(s)
1	2.6624
2	1.8401
4	1.3681
8	1.4729
16	1.5996
32	2.5379
64	5.1616
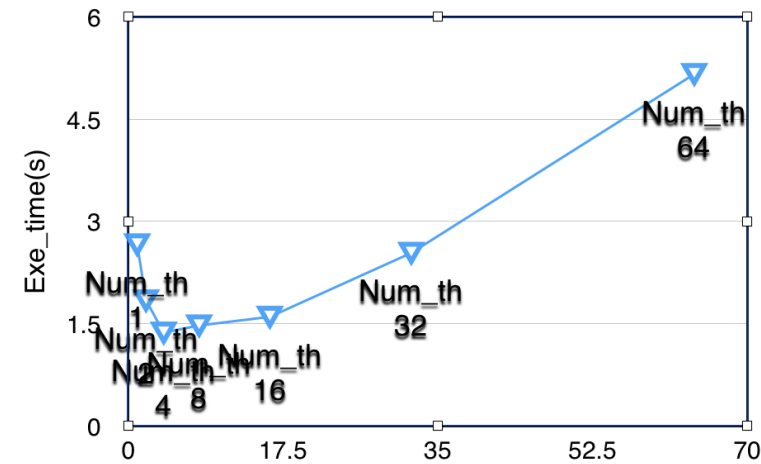
c) s = 512

Num_th	Exe_time(s)
1	0.5511
2	0.2889
4	0.2509
8	0.3381
16	0.5687
32	1.2668
64	2.3112
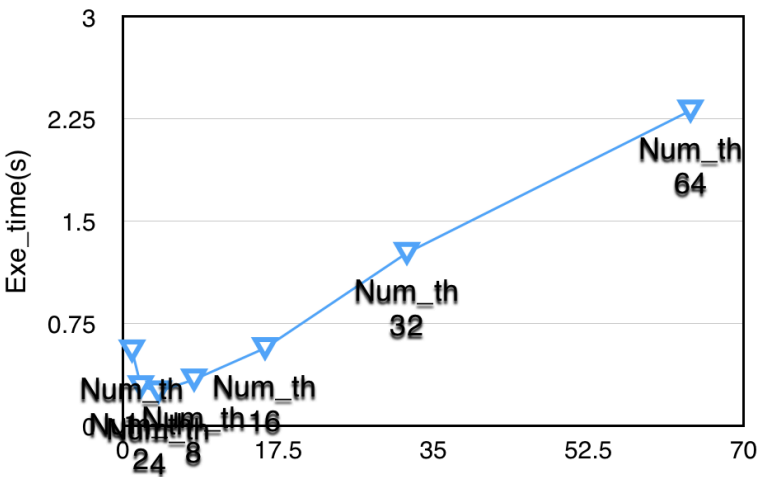
d) s = 256

Num_th	Exe_time(s)
1	0.0695
2	0.0488
4	0.0377
8	0.1217
16	0.2811
32	0.7811
64	1.2971
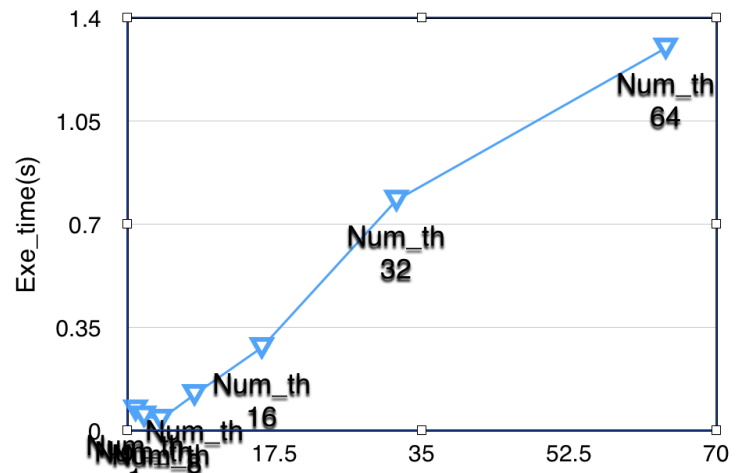
e) s = 128

Num_th	Exe_time(s)
1	0.0086
2	0.0067
4	0.0129
8	0.0620
16	0.1338
32	0.3215
64	0.6866
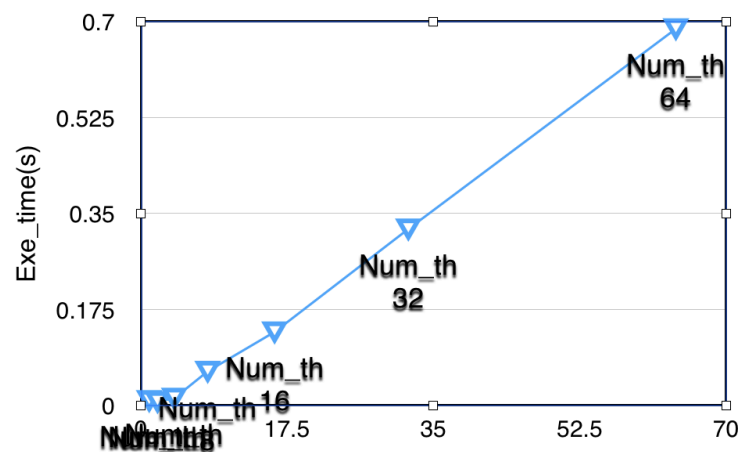
3.2 Results for Column Oriented Method

3.2.1 Cycle3
a) s = 2048

Num_th	Exe_time(s)
1	45.7593
2	32.3385
4	20.1281
8	14.9150
16	11.9805
32	10.0381
64	15.4013
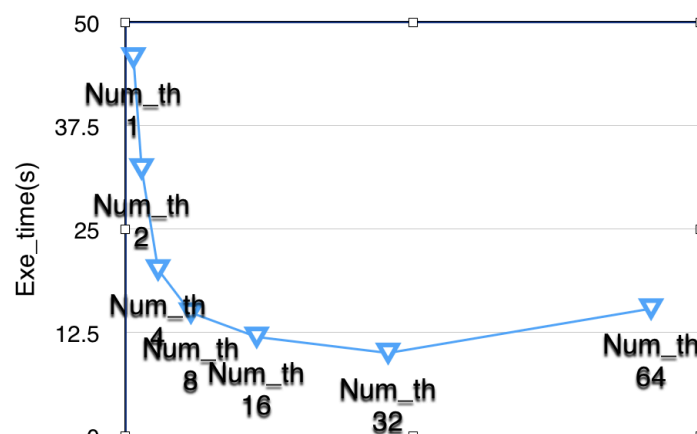
b) s = 1024

Num_th	Exe_time(s)
1	4.7099
2	2.5834
4	2.4504
8	1.9569
16	1.9561
32	2.0291
64	2.8229
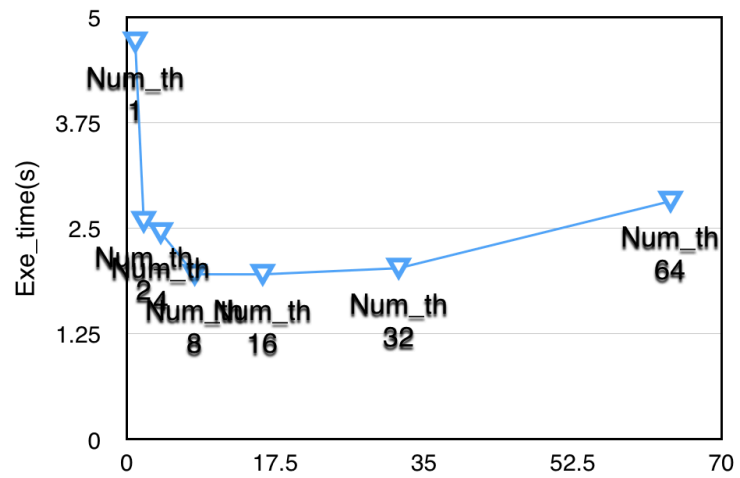
c) s = 512

Num_th	Exe_time(s)
1	0.4657
2	0.2760
4	0.3418
8	0.2509
16	0.2346
32	0.4514
64	0.7300
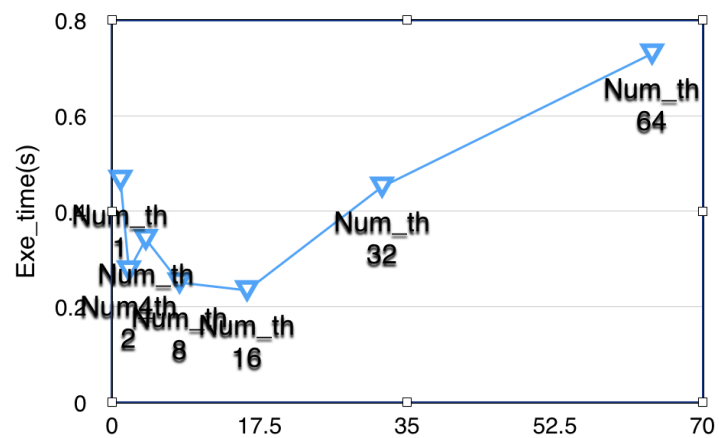
d) s = 256

Num_th	Exe_time(s)
1	0.0663
2	0.0577
4	0.0921
8	0.0842
16	0.0845
32	0.1629
64	0.3577
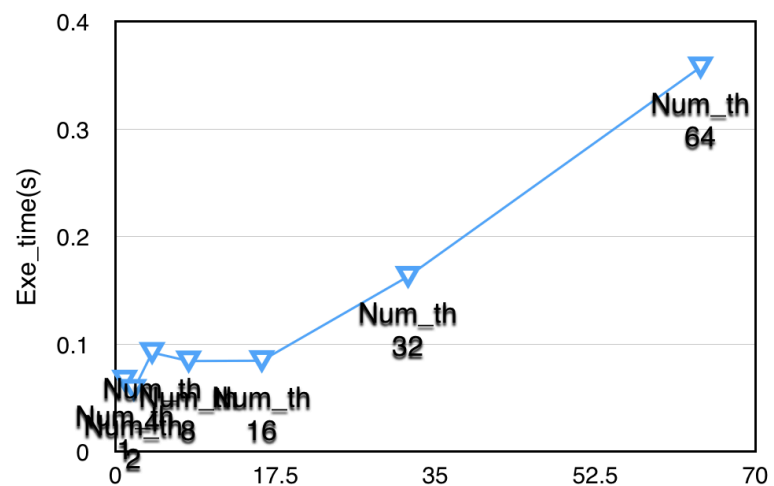
e) s = 128

Num_th	Exe_time(s)
1	0.0073
2	0.0211
4	0.0305
8	0.0298
16	0.0436
32	0.0635
64	0.1677
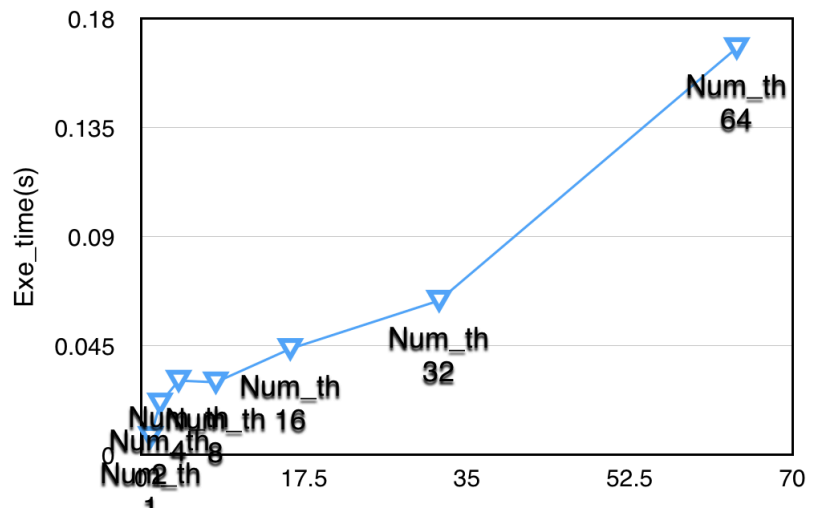
3.2.2 Cycle2
a) s = 2048

Num_th	Exe_time(s)
1	52.7663
2	52.1706
4	29.9635
8	21.6317
16	17.4418
32	19.7752
64	25.8588
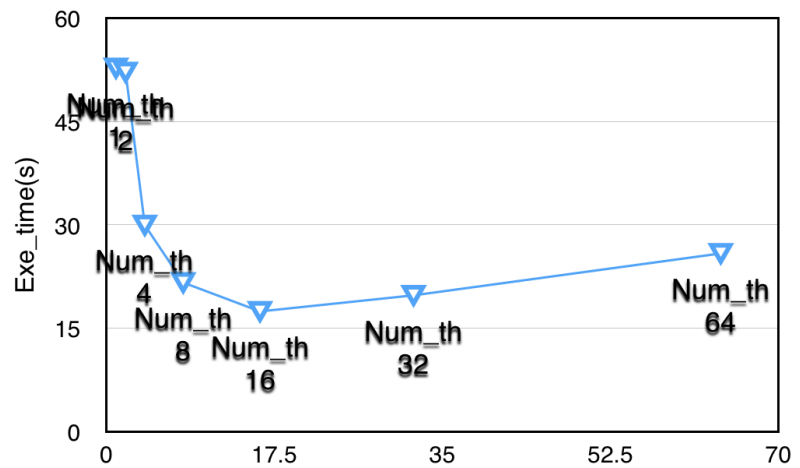
b) s = 1024

Num_th	Exe_time(s)
1	5.1507
2	5.9826
4	4.2976
8	3.4784
16	3.0960
32	4.4038
64	7.6552
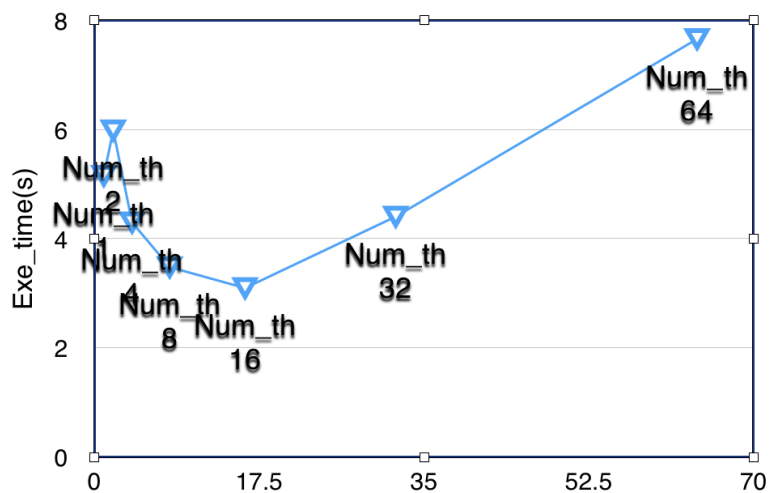
c) s = 512

Num_th	Exe_time(s)
1	0.7863
2	0.4868
4	0.8116
8	0.8289
16	0.9032
32	1.6225
64	3.5885
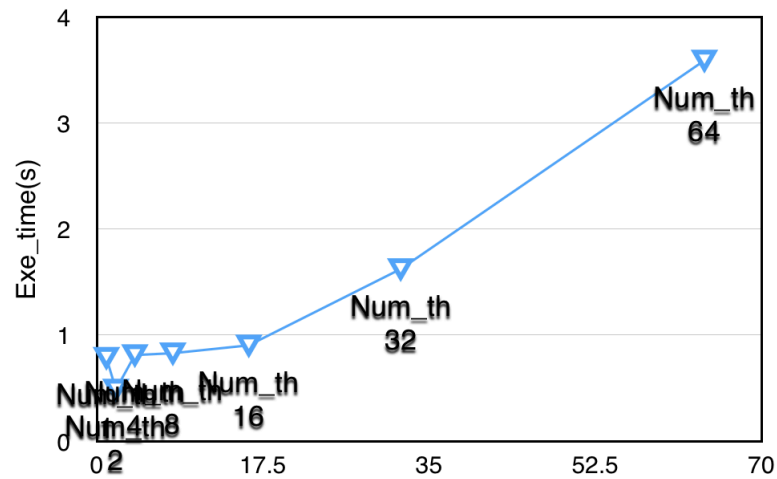
d) s =256

Num_th	Exe_time(s)
1	0.0989
2	0.0665
4	0.1065
8	0.2193
16	0.3906
32	0.8096
64	1.7380
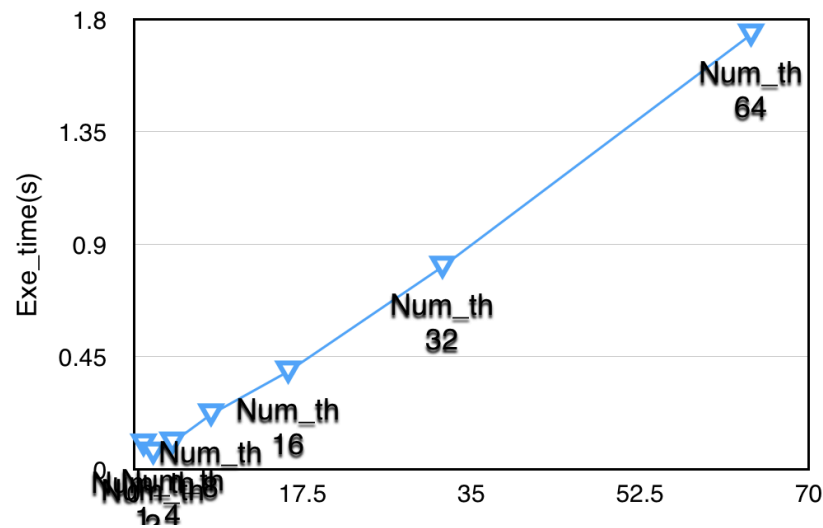
e) s = 128

Num_th	Exe_time(s)
1	0.0096
2	0.0099
4	0.0471
8	0.1053
16	0.1727
32	0.4573
64	0.8916