Python

* 474 ms, 493 ms 520 ms

Average = 496 ms

C - unthreaded

* 25.579 ms ,23.79 ms 22.68 ms

Average = 24.02 ms

C-threaded -2 threads

* 44.7495 ms, 40.3182 ms, 42.4873 ms

Average = 42.5335 ms

C-threaded 4 threads

* 25.5172 ms , 11.4186 ms , 14.3487 ms,

Average = 17.09389 ms

C-threaded -8 threads

* 2.3261 ms, 2.3481 ms, 3.67916 ms

Average = 2.784453333 ms

C-threaded -16 threads

* 13.0595 ms , 10.6174 ms, 5.22621 ms

Average = 9.63437 ms

C-threaded -32 threads

* 13.1875 ms , 20.2448 ms , 13.8165 ms

Average = 15.74282667 ms

C-O0 8 with threads

* 4.88917 ms , 10.0373 ms , 5.15318 ms

Average = 6.693216667

C-O1

* 3.19511 MS, 2.38008 ms, 2.47908 ms

Average = 2.684756667 ms

C-02

* 1.98807 ms, 2.07401 ms, 0.95001 ms

Average = 1.670696667

C-03

* 15.2878 ms, 15.4578 ms, 14.779 ms

Average = 15.17486667

C-Ofast

* 3.39668 ms, 2.49877 ms, 2.07181 ms Average = 2.655753333

C-Os

* 2.32588 ms, 2.26289 ms , 5.30073 ms

Average = 3.2965 ms

C-Og

* 4.73982 ms , 5.62679 ms, 4.89582 ms

Average = 5.087476667 ms

Funroll-loops- 5.3427

C-O2-funroll-loops

* 1.14698 ms, 4.10092 ms, 3.82893 ms

C- 64 bits with -O2 flag 8 threads

* 19.84911 ms, 19.7282 ms , 16.7585 ms

Average = 18.778033 ms

C-64 bits with -O0 flag with 8 threads

* 12.7502 ms, 10.4622 ms, 15.3823 ms

Average = 12.8649 ms

C-64 bits with -O1 flag with 8 threads

* 11.142 ms , 10.095 ms , 8.1040 ms

Average = 9.780333 ms

double

o0- 5.7439 8.25486 8.96085

o1-10.3228 14.0528 14.6378

o2-3.46294 2.22196 5.8579

o3-25.7936 25.6526 22.0576

ofast-2.67911 3.88716 2.03708

og-7.75318 8.15819 11.7743

os-2.98504 4.82506 2.04063

-funroll-loops-5.12703 3.18302 5.43403

using os optimisation

2 threads-66.129 36.336 47.067

4 threads-22.1979 25.5679 19.051

16threads-16.6949 16.0239 10.917

32threads-23.6353 17.8272 14.4626