Implementation	2^25 (2063689 primes)	2^26 (3957809 primes)	2^27 (7603553 primes)	2^28 (14630843 primes)	2^29 (28192750 primes)	2^30 (54400028 primes)	2^31 (105097565 primes)	2^32 (203280221 primes)	2^33 (393615806 primes)	2^34 (762939111 primes)	2^35 (1480206279 primes)	2^36 (2874398515 primes)	2^37 (5586502348 primes)	2^38 (10866266172 primes)	Space 2^32
1 - Division to check for primes	78.3672s (01m18.3672s)	212.465s (03m32.465s)	579.801s (09m39.801s)	1566.9s (26m6.98s)	4128.66s (01h08m48.66s)	11758.5s (03h15m58.5s)	31765.7s (08h49m25.7s)	89076.27s (24h44m36.27s)							257.3 MB
2 - Multiples to check for primes	0.05379s	0.118753s	0.313213s	0.771619s	1.73917s	3.7117s	7.77435s	16.7219s							257.3 MB
3 - Block search with bitset with all odd numbers (262144 bytes block)	0.051265s	0.107356s	0.218983s	0.450562s	0.924885s	1.90522s	3.90823s	8.03756s							257.3 MB
4 - Block search with bitset with odd numbers only in the block (32768 bytes block) and primes found stored in vector	0.11176s	0.226895s	0.449838s	0.939899s	1.81789s	3.63s	7.29397s	14.742s							1.5 GB
5 - Block search with bitset with all numbers optimized for time (16384 bytes block)	0.041456s	0.085455s	0.182632s	0.360063s	0.716558s	1.45651s	2.98484s	6.13673s							257.4 MB
6 - Block search with bitset with only possible prime numbers optimized for space and with modulo 30 wheel factorization (16384 bytes block)	0.218348s	0.439598s	0.905796s	1.8922s	3.85323s	7.97944s	16.4068s	33.8284s							137.9 MB
7 - Block search with bitset with only possible prime numbers optimized for space and with modulo 210 wheel factorization (1048576 bytes block - L2 cache size)	0.19376s	0.401513s	0.834527s	1.72432s	3.5927s	7.41771s	15.3145s	28.7898s							118.4 MB
8 - Block search with bitset with all odd numbers optimized for time and space and with modulo 30 wheel factorization (32768 bytes block)	0.030691s	0.059698s	0.123468s	0.252195s	0.514724s	1.06929s	2.15629s	4.50765s							257.4 MB
9 - Block search with bitset with all odd numbers optimized for time and space and with modulo 210 wheel factorization (16384 bytes block)	0.026559s	0.054194s	0.114309s	0.234591s	0.475264s	0.987832s	2.02913s	4.16196s							257.4 MB
10 - Block search with bitset with all numbers optimized for time and with modulo 30 wheel factorization (16384 bytes block)	0.029955s	0.062438s	0.129s	0.26337s	0.548564s	1.13495s	2.35394s	4.86301s							513.4 MB
11 - Block search with bitset with all numbers optimized for time and with modulo 210 wheel factorization (16384 bytes block)	0.027547s	0.057692s	0.116229s	0.241708s	0.506218s	1.04943s	2.16836s	4.48239s							513.4 MB
12 - OpenMP optimized for space and time with 210 wheel (8 thread, 16384 bytes block)	0.021943s	0.034097s	0.037444s	0.076568s	0.135909s	0.264754s	0.551032s	1.11947s	2.29341s	4.72497s	10.0136s	21.0065s			258.1 MB
13 - OpenMP optimized for time with 210 wheel (8 thread, 16384 bytes block)	0.01658s	0.027963s	0.045771s	0.070665s	0.142383s	0.28622s	0.608307s	1.24695s	2.50023s	5.33115s	11.507s	25.6791s			514.6 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (1 thread, 16384 bytes block, 65536 blocks per segment)	0.027513s	0.055756s	0.115629s	0.237207s	0.493087s	1.02009s	2.10521s	4.35984s				01m26.8544s			259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (2 thread, 16384 bytes block, 65536 blocks per segment)	0.015109s	0.031551s	0.065291s	0.126653s	0.26067s	0.526837s	1.08831s	2.23156s				44.4231s			259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (3 thread, 16384 bytes block, 65536 blocks per segment)	0.014733s	0.025485s	0.044905s	0.094799s	0.177693s	0.372688s	0.757399s	1.55087s				30.2707s			259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (4 thread, 16384 bytes block, 65536 blocks per segment)	0.026944s	0.020559s	0.049555s	0.087814s	0.142987s	0.289344s	0.590273s	1.22311s				23.421s			259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (5 thread, 16384 bytes block, 65536 blocks per segment)	0.0155s	0.020399s	0.040199s	0.090744s	0.147033s	0.297135s	0.587315s	1.20175s							259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (6 thread, 16384 bytes block, 65536 blocks per segment)	0.015671s	0.019792s	0.040721s	0.072898s	0.146783s	0.306576s	0.614554s	1.20843s							259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (7 thread, 16384 bytes block, 65536 blocks per segment)	0.020429s	0.032369s	0.036335s	0.072135s	0.141133s	0.289686s	0.583487s	1.19033s							259.3 MB
14 - Segmented OpenMP optimized for space and time with 210 wheel (8 thread, 16384 bytes block, 65536 blocks per segment)	0.017749s	0.031016s	0.042023s	0.073909s	0.142379s	0.276313s	0.564298s	1.15578s	2.43057s	4.91264s	10.5398s	21.8004s	48.8777s	01m50.3237s	259.3 MB
15 - OpenMPI optimized for space and time with 210 wheel (8 processes, 16384 bytes block)	0.021124s	0.03494s	0.060063s	0.106686s	0.22082s	0.434962s	0.801226s	1.78665s	3.53555s	7.12454s	14.8795s	29.2049s			273.6 MB (34.2 * 8)
16 - OpenMPI optimized for time with 210 wheel (8 processes, 16384 bytes block)	0.017813s	0.035047s	0.064577s	0.088547s	0.195475s	0.411439s	0.825508s	1.83741s	3.51102s	7.92481s	17.1476s	05m32.3609s			595.8 MB (66.2 *9)
17 - Hybrid OpenMPI and OpenMP optimized for space and time with 210 wheel (2 processes, 16384 bytes block)	0.04398s	0.054448s	0.071783s	0.105945s	0.219389s	0.399954s	0.791521s	1.65232s	3.21424s	7.22188s	14.071ss	30.3522s			261.6 MB (130.8 * 2)
18 - Hybrid OpenMPI and OpenMP optimized for time with 210 wheel (2 processes, 16384 bytes block)	0.039117s	0.040127s	0.052025s	0.102895s	0.197287s	0.375803s	0.758434s	1.65955s	3.47208s	7.41161s	17.161s	01m16.2421s			517.6 MB (258.8 * 2)
19 - Hybrid OpenMPI and OpenMP with dynamic scheduling optimized for space and time with 210 wheel (2 processes, 1 segments, 16384 bytes block)	0.028317s	0.043094s	0.049543s	0.101592s	0.172931s	0.335762s	0.663572s	1.40193s	2.91882s	6.12895s	12.389s	38.6804s			277.2 MB (30.2 * 9)
19 - Hybrid OpenMPI and OpenMP with dynamic scheduling optimized for space and time with 210 wheel (5 processes, 19 segments, 16384 bytes block)	0.067472s	0.081146s	0.102608s	0.160728s	0.214156s	0.30962s	0.50516s	1.02775s	1.93067s	3.86512s	7.99354s	17.1396s	37.6913s	01m25.3872s	277.2 MB (30.2 * 9)
20 - Hybrid OpenMPI and OpenMP with dynamic scheduling optimized for time with 210 wheel (5 processes, 19 segments, 16384 bytes block)	0.066134s	0.077502s	0.100153s	0.138549s	0.18814s	0.293986s	0.517443s	0.990482s	1.96442s	4.16025s	9.13032s	19.6677s			513.9 MB (57.1 * 9)

Nodes hardware

Clevo P370EM

CPU: i7-3630QM
Clock rate: 2400 - 3400 MHz
L1 cache: 256 KB
L2 cache: 1024 KB
L3 cache: 6144 KB
16 GB RAM DDR3 1600MHz

Asus G51J

CPU: i7 720QM
Clock rate: 1600 - 2800 MHz
L1 cache: 256 KB
L2 cache: 1024 KB
L3 cache: 6144 KB
4 GB RAM DDR3 1066 MHz