execution time

Upper limit value	no threads	1 thr	2 thr	4 thr	8 thr	16 thr	32 thr	64 thr
100	0,000009	0,000205	0,000186	0,000239	0,000495	0,000805	0,001614	0,003199
1000	0,000489	0,000636	0,000816	0,001144	0,001428	0,001753	0,001192	0,001946
10000	0,023343	0,017499	0,019747	0,032851	0,037832	0,057297	0,034956	0,022729
100000	1,112659	1,121986	1,122062	1,612645	2,017429	2,191569	2,261402	2,215354
1000000	92,202270	92,045527	95,058192	134,838239	169,958351	178,526922	180,555720	182,175371

0	1000
1	10000
2	100000
4	1000000
8	2500000
16	
32	
64	

11th Gen Intel(R) Core(TM) i3-1115G4 @ 3.00GHz
2 cores
4 threads

0	1	2	4	8	16	32	64
	0,000009	0,000489	0,023343	1,112659	92,202270		
	0,000205	0,000636	0,017499	1,121986	92,045527		
	0,000186	0,000816	0,019747	1,122062	95,058192		
	0,000239	0,001144	0,032851	1,612645	134,838239		
	0,000495	0,001428	0,037832	2,017429	169,958351		
	0,000805	0,001753	0,057297	2,191569	178,526922		
	0,001614	0,001192	0,034956	2,261402	180,555720		
	0,003199	0,001946	0,022729	2,215354	182,175371		

tema 2

Measurement nu	CPUID execution time (clock cycles)
1	208
2	200
3	210
4	212
5	220
6	204
7	216
8	220
9	212
10	220
Average time	212,2

Measurement	ADD (reg)	ADD (var)	MUL	FDIV	FSUB
1	4	8,00	10,00	10,00	8,00
2	4	0,00	8,00	4,00	14,00
3	2	6,00	4,00	10,00	2,00
4	6	2,00	12,00	15,00	10,00
5	0	4,00	8,00	2,00	18,00
Average Time	3,2	4	8,4	8	10

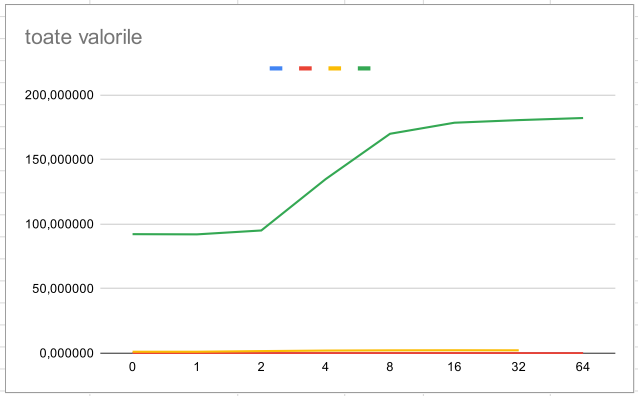
instructiunea pe registrii se executa foarte rapid fata de celelalte
operatiile in virgula mobila si inmultirea se executa mai lent

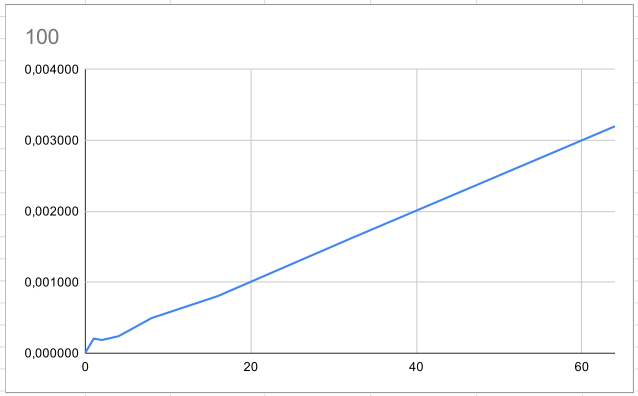
	rdtsc time	(clock cycles)	clock() time	(clock cycles)
Measurement	static array	dynamic array	static array	dynamic array
1	3.413.820,0	2.303.287,0	110,4	50,0
2	2.498.978,0	3.832.716,0	55,0	117,0
3	2.481.367,0	3.990.050,0	64,0	110,0
4	4.040.943,0	3.438.348,0	114,0	112,0
5	3.712.755,0	3.597.595,0	111,2	107,0
Average Time	3229572,6	3432399,2	90,92	99,200000

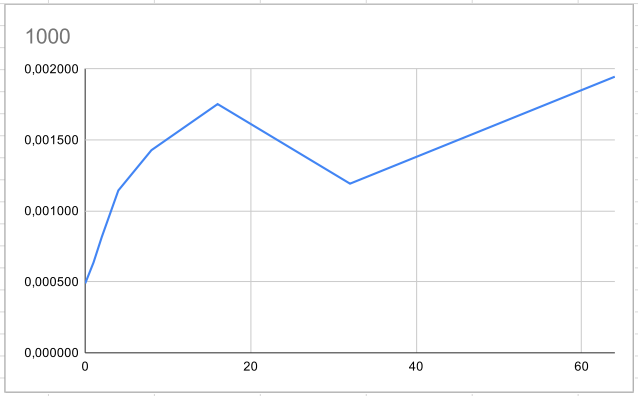
sortarea este mai eficienta pe vector static

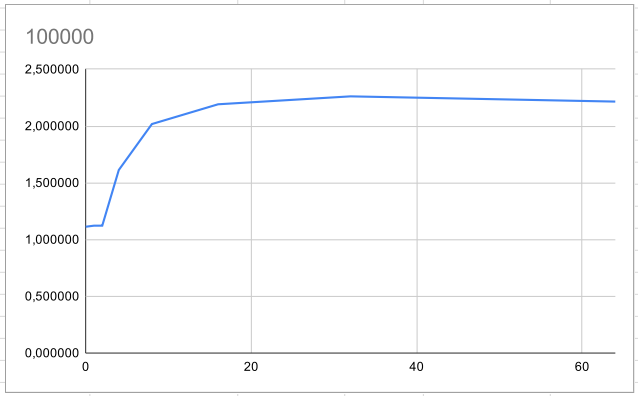
	initial sort time	(clock cycles)	optimized sort tin	(clock cycles)
Array length	static array	dynamic array	static array	dynamic array
100	57.763	47.928	32.416	29.712
500	953.973	1.113.873	158.435	166.399
1000	3.583.847	3.644.301	447.800	460.032
5000	41.408.413	42.211.697	3.122.268	3.041.676
10000	160.139.971	158.660.367	5.202.517	5.216.524

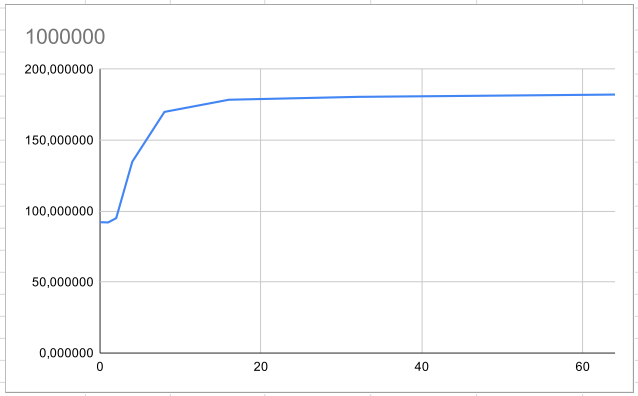
se poate observa diferenta dintre cei doi algoritmi
stanga: insertion sort
dreapta: randomized quicksort

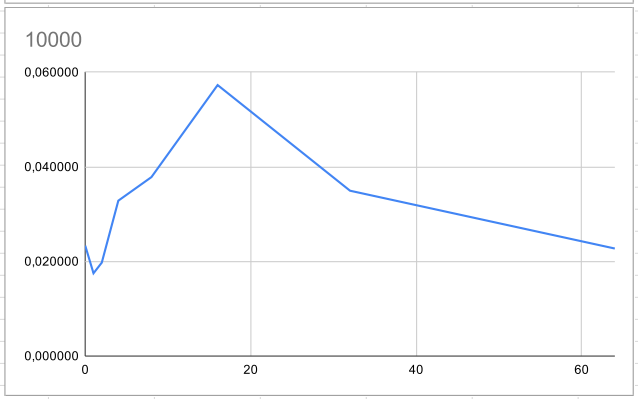

toate valorile
200,000000
150,000000
100,000000
50,000000
0,000000
0
1
2
4
8
16
32
64

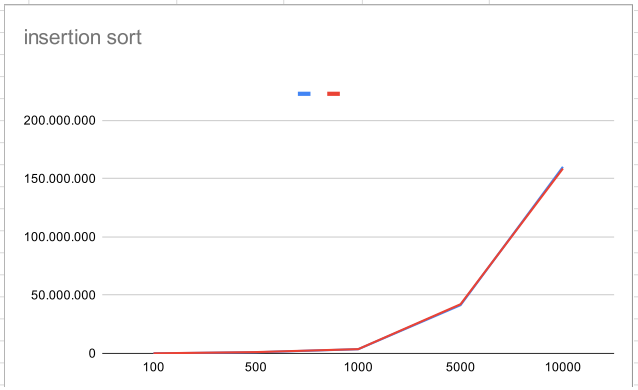

100
0,004000
0,003000
0,002000
0,001000
0,000000
0
20
40
60

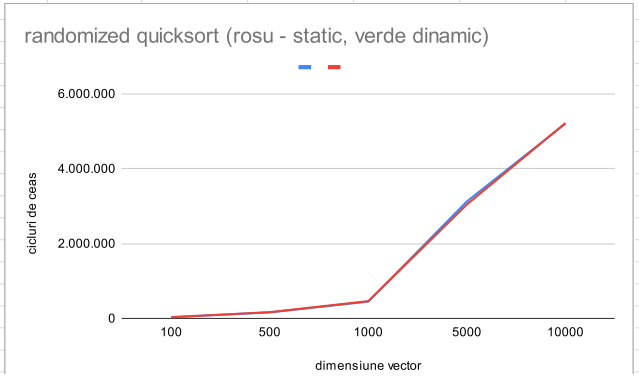

1000
0,002000
0,001500
0,001000
0,000500
0,000000
0
20
40
60


100000
2,500000
2,000000
1,500000
1,000000
0,500000
0,000000
0
20
40
60


1000000
200,000000
150,000000
100,000000
50,000000
0,000000
0
20
40
60


10000
0,060000
0,040000
0,020000
0,000000
0
20
40
60


insertion sort
200.000.000
150.000.000
100.000.000
50.000.000
0
100
500
1000
5000
10000


randomized quicksort (rosu - static, verde dinamic)
6.000.000
4.000.000
2.000.000
0
cicluri de ceas
100
500
1000
5000
10000
dimensiune vector