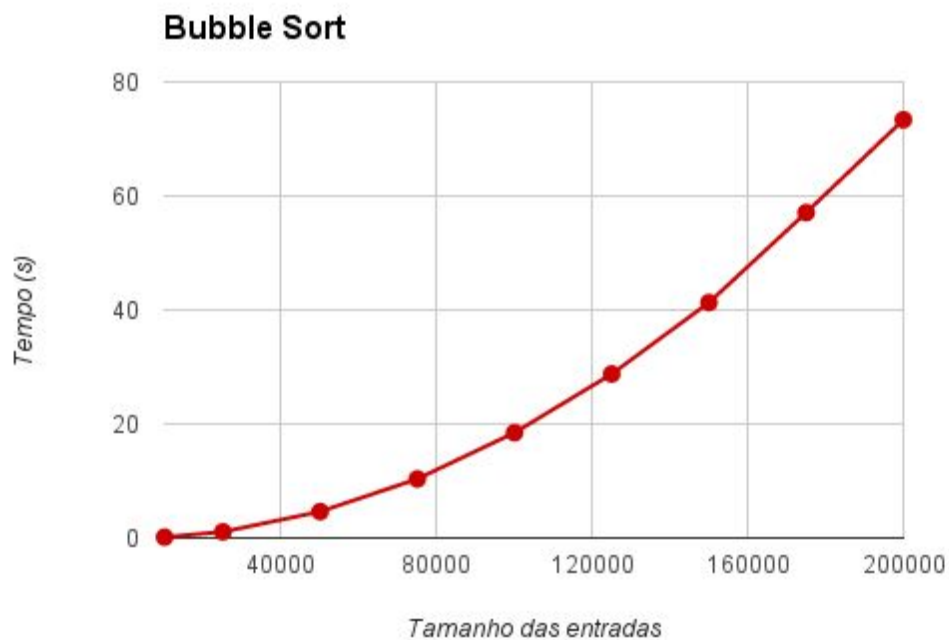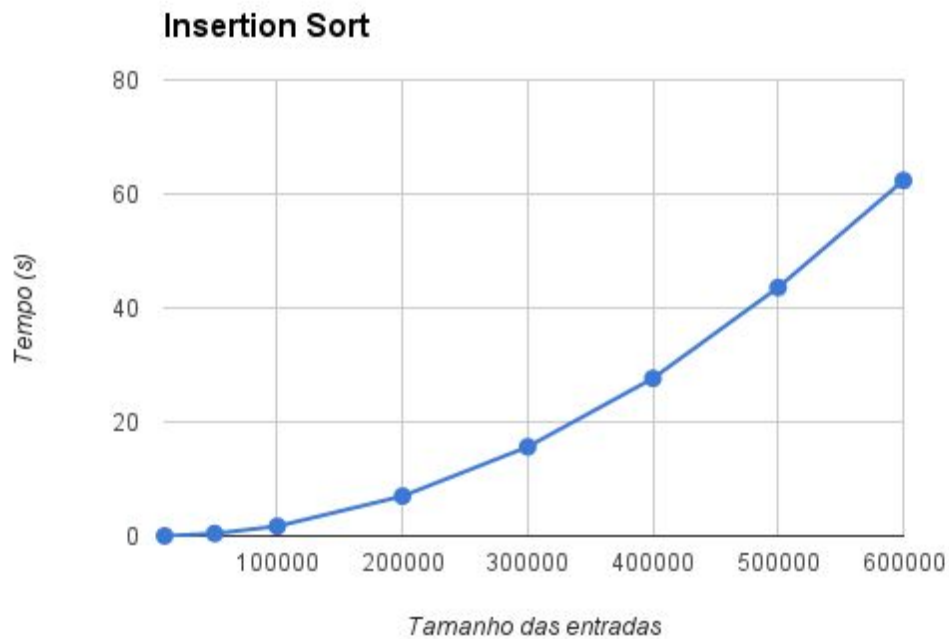# Comparação entre algoritmos de ordenação - MC202 - Lab. 13

Luciano Gigantelli Zago - 182835
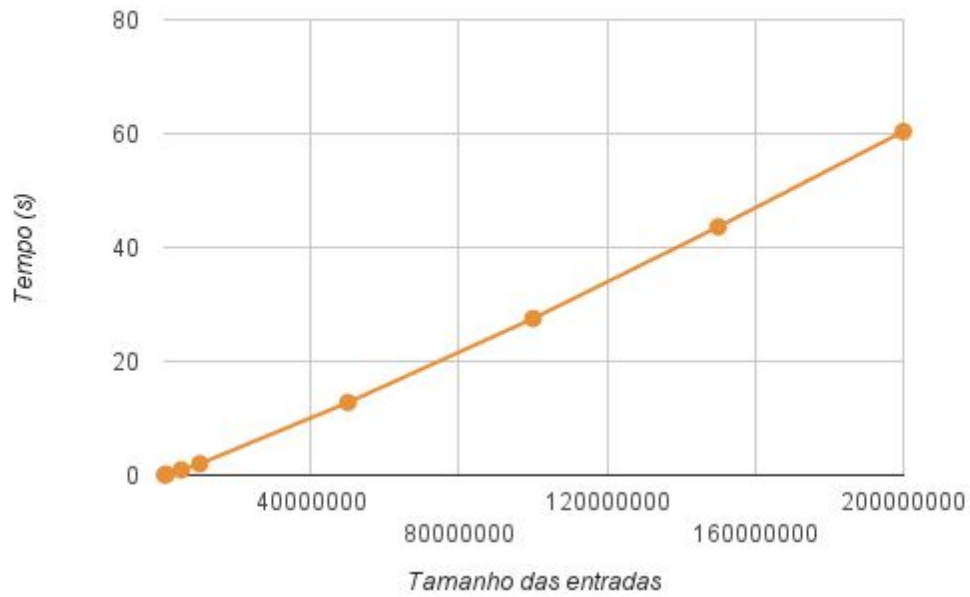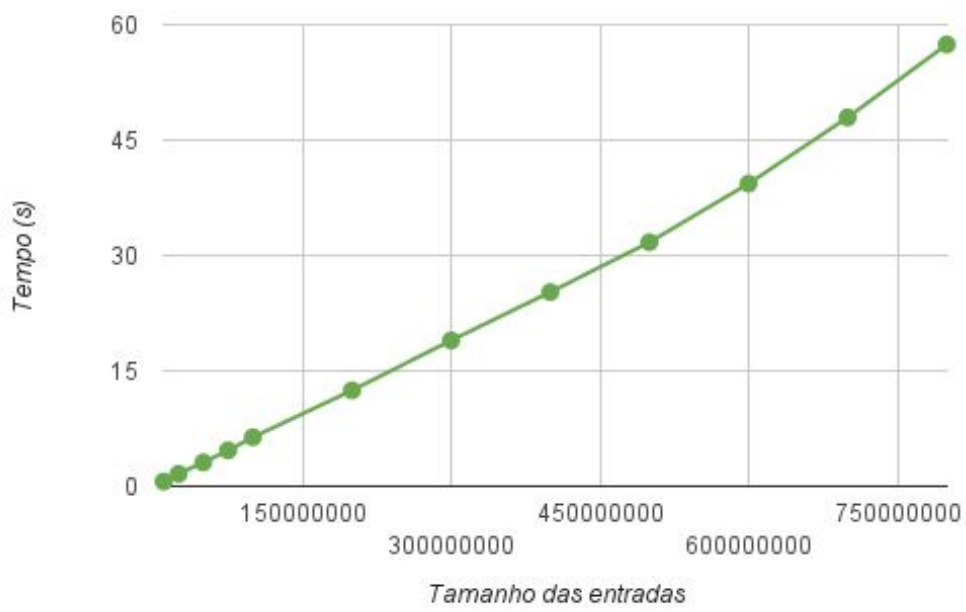*Prof. Guilherme Telles*
27/11/16

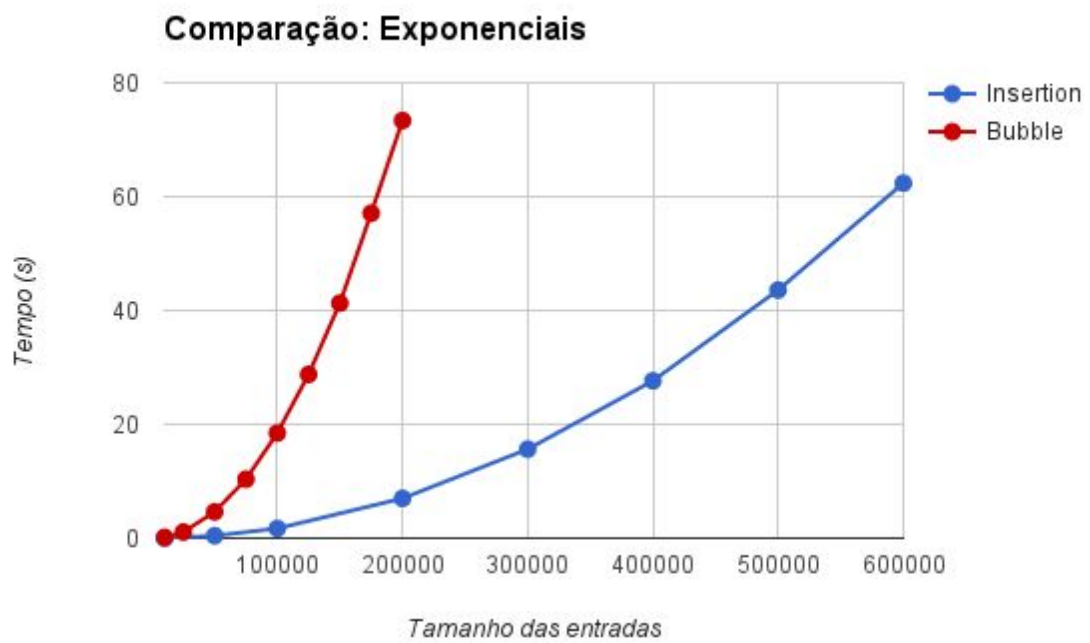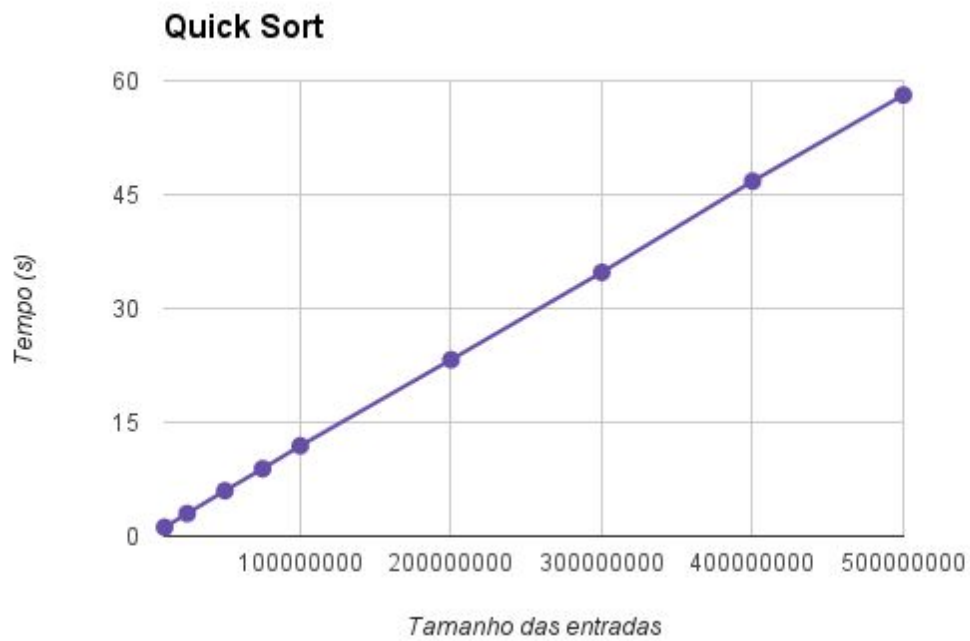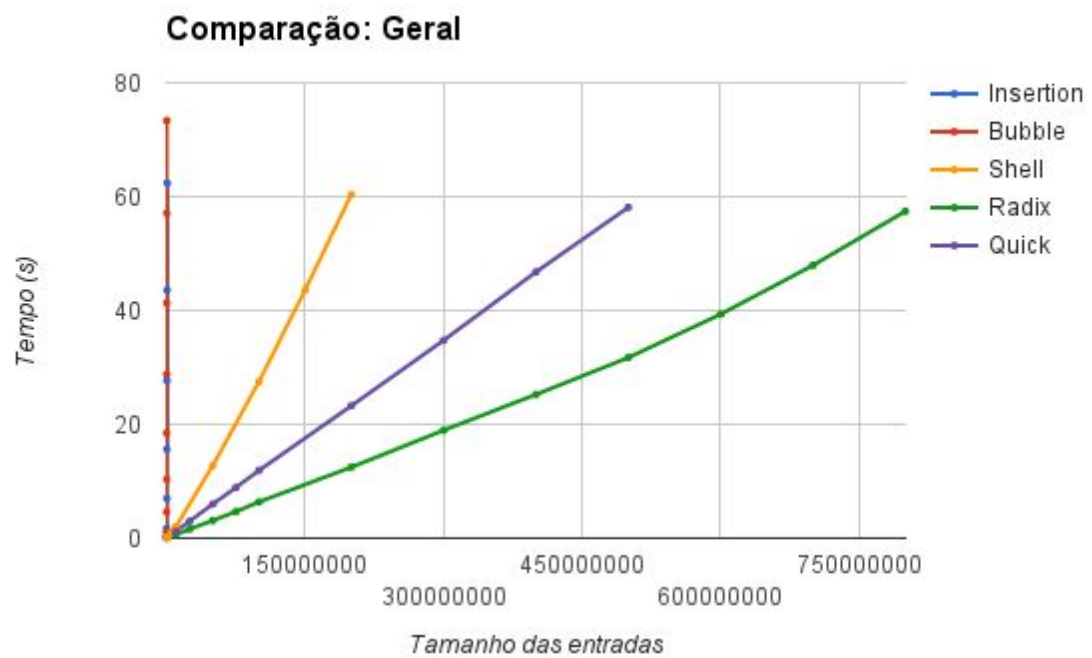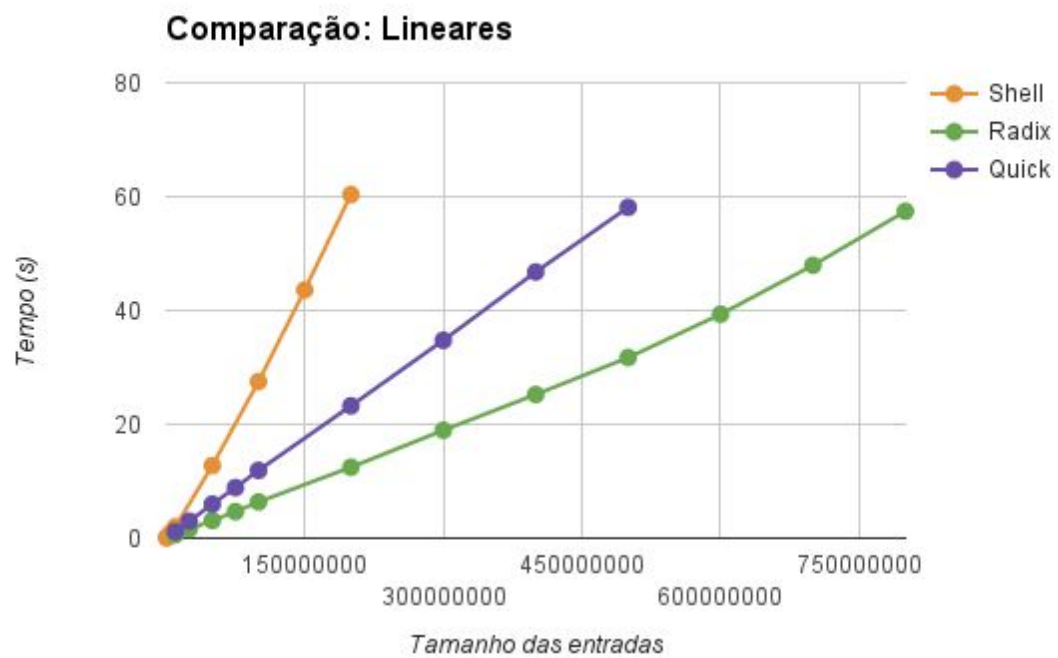*Os tempos utilizados são as médias de 5 medidas, referentes à mesma entrada.*

Shell Sort

Radix Sort

Foi usado o qsort da biblioteca "stdlib"

Quick Sort

Comparação: Exponenciais

Comparação: Lineares

Comparação: Geral

Tabelas:

Insertion Sort:

Entrada	T1 (s)	T2 (s)	T3 (s)	T4 (s)	T5 (s)	T Médio (s)
10000	0,017	0,021	0,017	0,017	0,017	0,018
50000	0,419	0,428	0,429	0,423	0,439	0,428
100000	1,718	1,722	1,679	1,702	1,716	1,707
200000	6,927	7,307	6,905	6,929	6,876	6,989
300000	15,401	15,826	15,802	15,551	15,622	15,640
400000	27,359	27,420	27,977	27,660	27,846	27,652
500000	43,401	43,792	43,305	43,640	43,826	43,593
600000	62,251	62,011	62,319	62,788	62,483	62,370

Bubble Sort:

Entrada	T1 (s)	T2 (s)	T3 (s)	T4 (s)	T5 (s)	T Médio (s)
10000	0,143	0,142	0,141	0,146	0,144	0,143
25000	1,075	1,050	1,081	1,124	1,065	1,079
50000	4,551	4,861	4,544	4,577	4,592	4,625
75000	10,291	10,350	10,327	10,442	10,369	10,356
100000	18,550	18,420	18,573	18,430	18,371	18,469
125000	28,738	28,905	28,795	28,704	28,709	28,770
150000	41,238	41,190	41,179	41,501	41,384	41,298
175000	57,523	56,261	56,109	56,473	59,048	57,083
200000	73,391	73,682	73,139	73,115	73,513	73,368

Shell Sort:

Entrada	T1 (s)	T2 (s)	T3 (s)	T4 (s)	T5 (s)	T Médio (s)
500000	0,071	0,070	0,069	0,070	0,069	0,070
1000000	0,151	0,152	0,155	0,157	0,156	0,154
5000000	0,913	0,936	0,946	0,907	0,917	0,924
10000000	1,979	2,022	2,093	1,941	1,961	1,999
50000000	13,021	12,930	12,573	12,741	12,512	12,755
100000000	28,911	27,883	27,060	26,910	26,767	27,506
150000000	42,224	44,307	42,055	45,251	44,251	43,618
200000000	59,473	62,570	59,475	60,417	59,895	60,366

Radix Sort

Entrada	T1 (s)	T2 (s)	T3 (s)	T4 (s)	T5 (s)	T Médio (s)
10000000	0,611	0,594	0,600	0,619	0,652	0,615
25000000	1,566	1,618	1,536	1,647	1,669	1,607
50000000	3,068	3,056	3,087	3,115	3,185	3,102
75000000	4,689	4,548	4,840	4,659	4,576	4,662
100000000	6,155	6,477	6,670	6,284	6,256	6,368
200000000	12,454	12,999	12,218	12,374	12,284	12,466
300000000	19,595	19,056	18,665	18,557	18,930	18,961
400000000	25,635	25,072	25,100	25,276	25,122	25,241
500000000	31,444	31,712	31,603	31,663	32,222	31,729
600000000	39,289	39,836	39,094	39,271	39,221	39,342
700000000	47,633	48,726	47,342	47,715	48,300	47,943
800000000	56,692	58,502	58,826	56,470	56,645	57,427

Quick Sort (qsort)

Entrada	T1 (s)	T2 (s)	T3 (s)	T4 (s)	T5 (s)	T Médio (s)
10000000	1,163	1,132	1,210	1,199	1,150	1,171
25000000	3,073	2,915	2,934	2,900	3,101	2,985
50000000	5,935	5,885	5,924	6,018	6,171	5,987
75000000	8,844	8,669	8,902	8,820	9,201	8,887
100000000	11,744	12,114	11,959	11,832	11,885	11,907
200000000	23,107	23,551	23,145	23,143	23,303	23,250
300000000	34,716	35,670	34,515	34,447	34,459	34,761
400000000	46,075	46,403	46,635	45,893	48,846	46,770
500000000	58,207	58,069	58,222	57,979	58,119	58,119