

**Média final do array ordenado em ordem crescente, sem valores repetidos (em nanonsegundos)**

	Bubble Sort	Insertion Sort	Selection Sort	Heap Sort	Shell Sort	Merge Sort	Quick Sort
128	4.174	6.503	217.039	33.035	43.014	130.079	132.202
256	6.297	13.683	585.295	308.855	98.579	94.932	1.214.449
512	18.300	34.432	864.417	142.841	217.141	135.532	1.425.354
1024	39.291	50.406	2.123.253	271.769	446.245	303.417	7.523.090
2048	49.729	105.714	902.989	449.733	331.245	427.405	2.545.844
4096	145.578	204.066	2.153.853	822.011	381.291.625	1.013.098	3.375.610
8192	293.101	300.053	8.689.601	1.044.466	1.006.766	1.755.382	7.595.049
16384	651.694	956.371	35.928.502	1.732.818	143.493	2.810.765	45.160.438
32768	949.762	264.047	115.196.796	4.336.228	282.700	5.105.414	183.786.982
65536	585.579	573.309	522.149.518	5.746.262	473.608	7.368.739	811.972.781

**Média final do array ordenado em ordem decrescente, sem valores repetidos (em nanonsegundos)**

	Bubble Sort	Insertion Sort	Selection Sort	Heap Sort	Shell Sort	Merge Sort	Quick Sort
128	520.620	212.426	162.657	49.460	62.954	133.123	141.480
256	303.785	273.440	235.547	210.103	121.339	335.371	348.190
512	1.092.143	691.245	1.008.956	173.169	325.714	130.744	1.592.200
1024	1.315.532	1.297.593	1.667.123	274.240	542.114	219.526	5.790.713
2048	2.054.730	1.736.540	5.304.035	477.379	398.155	366.074	2.871.307
4096	6.589.117	4.614.465	8.337.970	639.672	870.243	1.462.954	13.652.544
8192	26.362.852	13.715.446	19.323.466	884.877	1.324.014	1.852.337	28.693.559
16384	99.481.747	56.322.717	105.635.298	3.450.070	1.191.909	3.649.399	159.590.892
32768	447.843.945	914.575.461	437.229.266	4.542.741	1.048.446	3.748.653	688.396.638
65536	1.558.834.970	4.563.877.247	1.421.670.631	6.619.709	2.925.579	5.901.698	2.275.899.370

**Média final do array aleatório, sem valores repetidos (em nanonsegundos)**

	Bubble Sort	Insertion Sort	Selection Sort	Heap Sort	Shell Sort	Merge Sort	Quick Sort
128	328.199,0	108.501,8	159.731,6	28.509,6	48.566,0	134.511,4	70.209,3
256	325.692,5	351.075,6	352.334,6	83.023,9	193.227,9	282.135,4	160.433,0
512	1.285.669,9	375.374,8	1.032.039,1	127.427,1	428.969,0	101.359,6	96.007,2
1024	1.849.339,6	1.766.089,1	1.109.589,1	202.986,6	360.030,8	382.511,3	207.556,9

2048	5.829.897,8	1.361.420,3	1.530.607,7	591.161,6	935.032,1	388.247,9	317.283,6
4096	17.759.528,2	2.401.094,1	4.910.981,3	702.377,1	950.029,0	1.008.979,8	634.725,0
8192	89.044.083,4	6.428.411,5	17.728.610,4	1.082.090,4	1.381.844,1	2.026.188,8	1.309.733,6
16384	354.993.891,3	25.760.734,3	7.400.595,8	2.300.537,0	2.993.196,7	4.480.231,3	4.172.768,7
32768	1.543.553.239,0	111.048.757,9	312.237.005,0	4.492.207,6	7.594.190,8	5.562.549,8	4.003.553,1
65536	6.274.223.638,3	418.501.233,0	1.057.956.640,9	8.084.552,9	20.580.549,6	9.972.667,2	5.334.508,8

**Média final do Array aleatório, com valores repetidos (em nanonsegundos)**

	Bubble Sort	Insertion Sort	Selection Sort	Heap Sort	Shell Sort	Merge Sort	Quick Sort
128	318.232.875,0	124.176,2	219.230,0	79.638,8	73.318,0	140.211,1	90.396,3
256	234.190,1	298.127,6	319.207,9	145.398,8	164.262,4	259.331,3	138.967,4
512	1.386.135,2	550.430,4	1.114.804,6	346.632,0	459.009,2	124.875,4	104.999,4
1024	2.915.080,8	1.670.465,3	3.638.529,0	276.771,9	308.578,0	320.948,7	213.803,3
2048	5.362.309,4	960.986,8	1.587.354,6	399.900,7	544.649,7	678.822,9	374.932,6
4096	18.704.461,0	7.829.457,7	4.993.301,7	648.662,5	710.315,9	1.250.034,6	963.647,1
8192	79.386.543,0	6.476.208,6	18.638.271,1	1.032.904,4	1.516.302,0	2.133.574,0	1.388.516,7
16384	358.938.775,2	25.725.166,1	74.573.520,1	2.135.352,4	2.909.593,9	2.720.729,0	2.632.305,4
32768	1.527.689.581,9	106.479.369,3	299.165.708,2	4.211.003,4	5.914.735,3	5.105.707,1	3.444.691,1
65536	6.190.226.981,8	1.746.119.488,0	1.095.015.605,5	8.372.599,6	22.192.648,3	11.141.947,2	5.350.324,3