

Time (in μs) to select top n items from a supplied source list - JDK sort implementations vs MagicSort

Source type	Top	Source	Collections	MagicSort	%	JDK Stream	MagicSort Stream	%	Parallel Stream	MS Parallel Stream	%
ArrayShuffled	1	100	9.09	1.41	644%	11.60	1.32	881%	67.00	32.70	205%
ArrayShuffled	1	1,000	153.13	12.29	1,246%	161.99	12.22	1,326%	264.60	63.76	415%
ArrayShuffled	1	10,000	2,126.97	154.78	1,374%	2,304.21	167.92	1,372%	1,728.80	154.86	1,116%
ArrayShuffled	1	100,000	50,008.36	7,439.67	672%	64,902.69	5,290.49	1,227%	9,044.50	1,189.25	761%
ArrayShuffled	1	1,000,000	601,439.80	54,165.26	1,110%	662,720.96	61,563.72	1,076%	101,815.45	11,041.97	922%
ArrayShuffled	5	100	9.46	2.11	448%	10.92	2.27	480%	86.04	33.78	255%
ArrayShuffled	5	1,000	153.29	15.70	976%	166.20	14.06	1,182%	300.95	82.10	367%
ArrayShuffled	5	10,000	2,197.35	140.71	1,562%	2,329.97	166.30	1,401%	1,677.19	171.39	979%
ArrayShuffled	5	100,000	55,481.68	8,198.86	677%	62,759.49	5,318.66	1,180%	9,567.26	1,198.49	798%
ArrayShuffled	5	1,000,000	603,848.63	69,524.13	869%	649,650.45	60,506.70	1,074%	104,204.87	10,656.94	978%
ArrayShuffled	10	100	9.52	3.09	308%	11.00	3.48	316%	100.15	36.68	273%
ArrayShuffled	10	1,000	153.22	17.95	854%	168.66	16.17	1,043%	307.23	91.67	335%
ArrayShuffled	10	10,000	2,131.10	175.24	1,216%	2,320.38	174.74	1,328%	1,770.28	182.71	969%
ArrayShuffled	10	100,000	60,759.64	9,038.99	672%	66,869.30	5,289.74	1,264%	10,144.99	1,196.90	848%
ArrayShuffled	10	1,000,000	606,692.03	72,334.81	839%	677,449.74	63,623.17	1,065%	111,612.11	10,430.04	1,070%
ArrayShuffled	100	100	9.59	10.59	91%	12.15	10.66	114%	98.97	51.13	194%
ArrayShuffled	100	1,000	153.05	50.84	301%	167.65	59.76	281%	319.79	148.91	215%
ArrayShuffled	100	10,000	2,115.95	231.16	915%	2,319.62	226.11	1,026%	1,800.96	581.61	310%
ArrayShuffled	100	100,000	59,762.88	5,373.55	1,112%	60,478.39	5,251.41	1,152%	9,060.16	1,822.59	497%
ArrayShuffled	100	1,000,000	605,069.11	69,324.69	873%	666,658.61	61,284.76	1,088%	106,564.91	12,373.30	861%
ArrayShuffled	250	100	9.53	10.61	90%	12.05	10.65	113%	99.31	50.53	197%
ArrayShuffled	250	1,000	153.13	93.30	164%	167.47	104.36	160%	317.01	192.50	165%
ArrayShuffled	250	10,000	2,171.22	329.42	659%	2,312.70	394.66	586%	1,831.58	974.57	188%
ArrayShuffled	250	100,000	54,930.32	6,091.13	902%	56,654.43	5,772.74	981%	8,939.47	2,720.76	329%
ArrayShuffled	250	1,000,000	582,289.94	69,476.00	838%	658,604.21	71,564.89	920%	101,287.20	13,282.86	763%
LinkedListShuffled	1	100	9.62	1.19	811%	10.70	1.22	876%	69.49	32.73	212%
LinkedListShuffled	1	1,000	158.40	12.64	1,253%	161.83	9.11	1,776%	270.94	67.19	403%
LinkedListShuffled	1	10,000	2,423.03	194.38	1,247%	2,349.98	173.93	1,351%	1,969.87	606.89	325%
LinkedListShuffled	1	100,000	53,777.72	6,225.40	864%	50,280.84	4,072.21	1,235%	13,403.37	6,520.62	206%
LinkedListShuffled	1	1,000,000	768,792.62	91,921.54	836%	729,763.74	87,809.19	831%	208,721.52	85,660.12	244%
LinkedListShuffled	5	100	9.47	1.91	496%	10.75	1.96	548%	86.69	35.13	247%
LinkedListShuffled	5	1,000	159.00	12.90	1,232%	161.15	10.22	1,577%	299.64	84.11	356%
LinkedListShuffled	5	10,000	2,410.99	208.18	1,158%	2,343.24	171.84	1,364%	2,194.38	669.64	328%
LinkedListShuffled	5	100,000	59,113.40	6,655.04	888%	49,789.71	4,461.79	1,116%	17,527.61	7,878.15	222%
LinkedListShuffled	5	1,000,000	756,073.87	97,966.35	772%	748,200.43	85,676.67	873%	193,049.18	84,728.09	228%
LinkedListShuffled	10	100	9.51	2.90	328%	10.99	3.08	356%	99.34	36.43	273%
LinkedListShuffled	10	1,000	156.58	15.05	1,040%	158.44	12.09	1,310%	313.16	96.19	326%
LinkedListShuffled	10	10,000	2,414.87	190.10	1,270%	2,309.04	175.93	1,312%	2,115.87	597.58	354%
LinkedListShuffled	10	100,000	56,067.62	6,492.12	864%	56,166.95	4,401.16	1,276%	18,332.22	7,414.66	247%
LinkedListShuffled	10	1,000,000	764,910.13	103,252.43	741%	735,480.33	86,770.25	848%	204,003.70	83,651.66	244%
LinkedListShuffled	100	100	9.36	10.44	90%	12.22	10.02	122%	100.30	51.66	194%
LinkedListShuffled	100	1,000	159.06	51.71	308%	161.72	52.12	310%	322.15	149.90	215%
LinkedListShuffled	100	10,000	2,412.21	278.32	867%	2,335.35	241.76	966%	2,141.05	848.69	252%
LinkedListShuffled	100	100,000	59,207.19	6,711.58	882%	52,616.32	4,806.34	1,095%	17,901.50	6,832.90	262%
LinkedListShuffled	100	1,000,000	750,200.33	102,418.46	732%	724,596.30	89,113.20	813%	200,489.34	89,163.15	225%
LinkedListShuffled	250	100	9.47	10.32	92%	12.05	10.56	114%	99.88	50.92	196%
LinkedListShuffled	250	1,000	158.68	94.42	168%	166.47	99.71	167%	319.60	192.98	166%
LinkedListShuffled	250	10,000	2,426.81	397.01	611%	2,291.31	377.56	607%	2,165.65	886.10	244%
LinkedListShuffled	250	100,000	56,112.93	5,072.26	1,106%	46,716.91	4,596.37	1,016%	16,347.72	8,621.18	190%
LinkedListShuffled	250	1,000,000	757,592.32	101,400.33	747%	720,477.38	86,403.31	834%	206,568.13	89,404.00	231%
LinkedListSorted	1	100	1.72	1.78	97%	2.63	2.08	127%	57.44	33.60	171%
LinkedListSorted	1	1,000	28.53	20.86	137%	27.64	22.24	124%	125.55	81.06	155%
LinkedListSorted	1	10,000	425.71	240.09	177%	303.58	259.36	117%	937.67	725.68	129%
LinkedListSorted	1	100,000	11,888.49	10,674.09	111%	10,136.06	7,485.70	135%	10,408.57	10,487.11	99%
LinkedListSorted	1	1,000,000	149,366.76	59,666.11	250%	82,821.27	61,332.48	135%	108,896.23	91,818.55	119%
LinkedListSorted	5	100	1.76	2.37	74%	2.63	3.04	86%	76.13	35.01	217%
LinkedListSorted	5	1,000	27.24	25.82	105%	27.65	33.05	84%	159.03	97.28	163%
LinkedListSorted	5	10,000	411.13	283.71	145%	308.72	381.67	81%	1,051.79	710.68	148%
LinkedListSorted	5	100,000	12,373.30	10,383.52	119%	10,888.89	9,351.37	116%	14,668.43	8,701.87	169%
LinkedListSorted	5	1,000,000	149,242.23	65,768.59	227%	87,855.81	73,489.46	120%	110,031.93	90,001.81	122%
LinkedListSorted	10	100	2.01	2.48	81%	2.49	3.40	73%	81.22	36.47	223%
LinkedListSorted	10	1,000	27.58	27.85	99%	28.55	37.38	76%	169.16	98.97	171%
LinkedListSorted	10	10,000	403.33	309.03	131%	308.05	435.34	71%	998.25	716.43	139%
LinkedListSorted	10	100,000	13,576.40	9,828.26	138%	10,197.92	9,542.15	107%	15,199.90	9,604.46	158%
LinkedListSorted	10	1,000,000	155,787.11	78,039.47	200%	83,338.16	80,596.51	103%	112,590.44	91,543.88	123%
LinkedListSorted	100	100	1.84	2.14	86%	3.68	1.97	187%	81.83	37.01	221%
LinkedListSorted	100	1,000	28.38	38.38	74%	29.07	54.28	54%	171.90	129.15	133%
LinkedListSorted	100	10,000	401.16	443.86	90%	296.40	636.50	47%	1,087.13	783.20	139%
LinkedListSorted	100	100,000	11,862.09	10,693.66	111%	11,219.54	11,086.12	101%	15,084.85	9,069.39	166%
LinkedListSorted	100	1,000,000	150,982.96	89,418.84	169%	82,581.59	95,631.32	86%	113,507.59	87,014.58	130%
LinkedListSorted	250	100	1.96	2.24	87%	3.65	2.15	169%	82.39	37.61	219%
LinkedListSorted	250	1,000	28.57	47.16	61%	31.35	63.08	50%	170.42	164.02	104%
LinkedListSorted	250	10,000	399.53	577.59	69%	297.53	780.53	38%	1,073.83	970.19	111%
LinkedListSorted	250	100,000	12,583.70	11,330.93	111%	9,569.20	12,003.07	80%	15,191.04	10,170.38	149%
LinkedListSorted	250	1,000,000	149,806.74	102,158.43	147%	85,369.62	110,487.92	77%	116,236.21	91,577.22	127%