

Result for heapsort : sort number=20000 row=page size column=window size

	128	256	512	1024	2048	4096	8192	16384
Psize 64	209512.0 0 10.39710 2	151285.0 0 15.01588 1	113219.0 0 22.47746 7	85491.0 33.95194 6	63307.0 50.28355 8	45063.0 71.64228 8	29998.0 95.535034	18628.0 118.64968 1
Psize 128	181072.0 0 8.985758	126746.0 0 12.58024 8	91211.0 18.10820 0	65602.0 26.05321 7	45735.0 36.32645 0	30175.0 47.97297 3	18374.0 58.515923	10411.0 66.312103
Psize 256	154247.0 0 7.654558	103884.0 0 10.31106 7	71207.0 14.13678 7	48143.0 19.11953 9	31051.0 24.66322 5	18702.0 29.73291 0	10385.0 33.073250	5507.0 35.076431
Psize 512	128206.0 0 6.362265	82297.0 8.168437	53014.0 10.52491 6	33169.0 13.17275 6	19548.0 15.52660 8	10723.0 17.04769 5	5585.0 17.786625	2877.0 18.324841

Result for quicksort : sort number=20000 row=page size column=window size

	128	256	512	1024	2048	4096	8192	16384
Psize 64	22363.00 2.203903	13629.00 2.686576	8989.00 3.544558	6425.00 5.067035	4953.00 7.812303	3984.00 12.56782 3	3313.00 20.968355	2764.00 34.987343
Psize 128	18865.00 1.859170	10714.00 2.111965	6486.00 2.557571	4229.00 3.335174	2997.00 4.727129	2256.00 7.116719	1792.00 11.341772	1444.00 18.278481
Psize 256	16679.00 1.643737	8955.00 1.765228	5057.00 1.994085	3034.00 2.392745	1977.00 3.118297	1383.00 4.362776	1028.00 6.506329	782.00 9.898734
Psize 512	15237.00 1.501626	7931.00 1.563375	4243.00 1.673107	2379.00 1.876183	1428.002. 252366	918.00 2.895899	631.00 3.993671	446.00 5.645570

From the table, we observe that when page size and window size are settled(i.e. the same for two algorithm), the working set requirements for the heapsort algorithm is relatively larger than than quicksort algorithm. That's because quicksort does not need to do unnecessary element swaps. For instance, when an array is almost sorted, quicksort only need trivial number of swaps. However for heapsort, even if the array is already sorted, you still need to swap 100% of elements to order the array.

For a certain algorithm, when page size are the same, the working set requirements decreases as the window size increases. For example if window size1 and size2 are 128 and 256 and both of them have page size 64. In size2, there are more pages and those pages are sharing one same physical memory. So window size with 256 will need less physical memory than window size with 128.

For a certain algorithm, when window size are the same, the working set requirements decreases as the page size increases. For example if page size1 and size2 are 128 and 256 and both of them have window size 8129. Size2 will contain more virtual address and those address are share one same physical memory. So page size with 256 will need less physical memory than page size with 128.