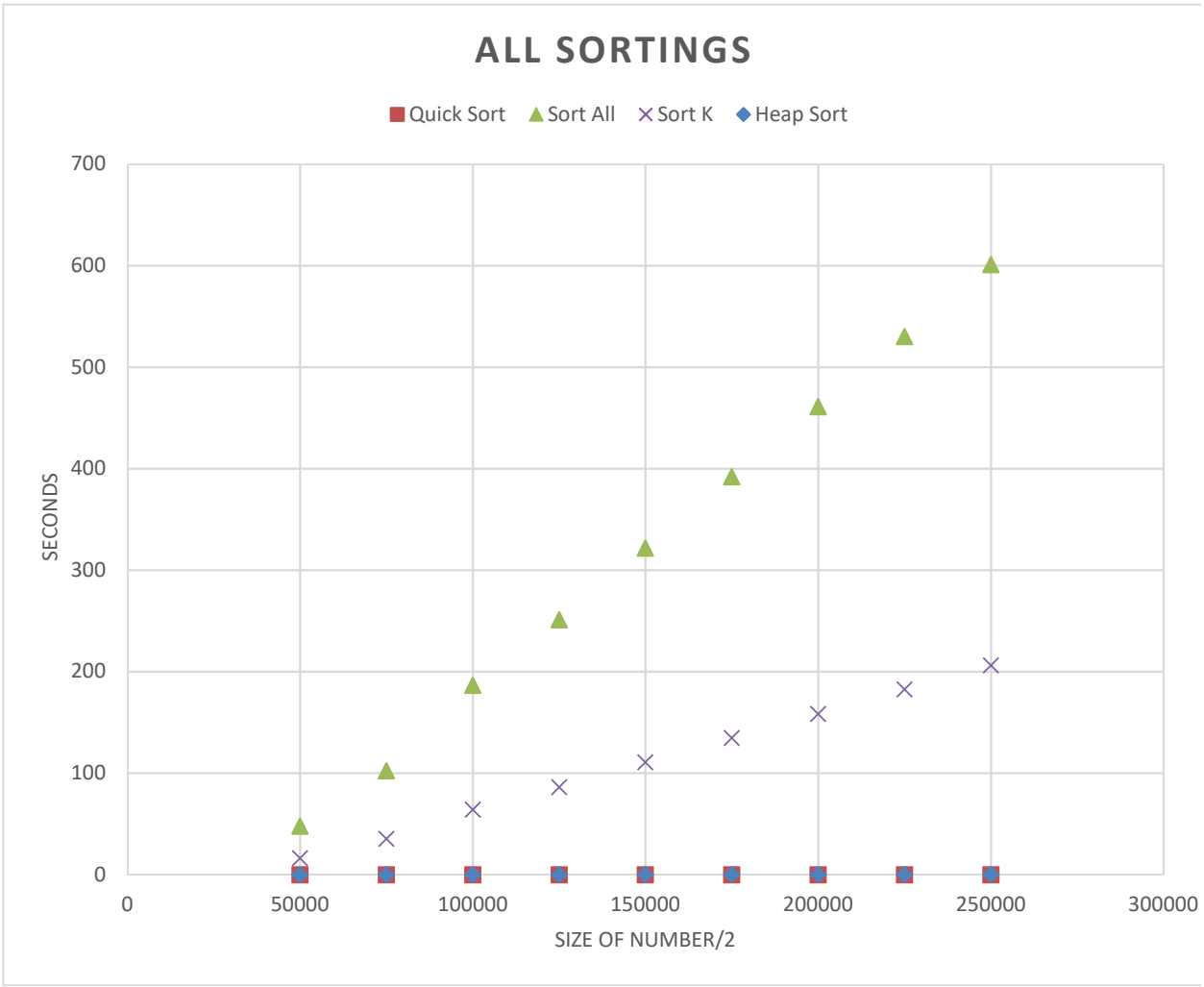
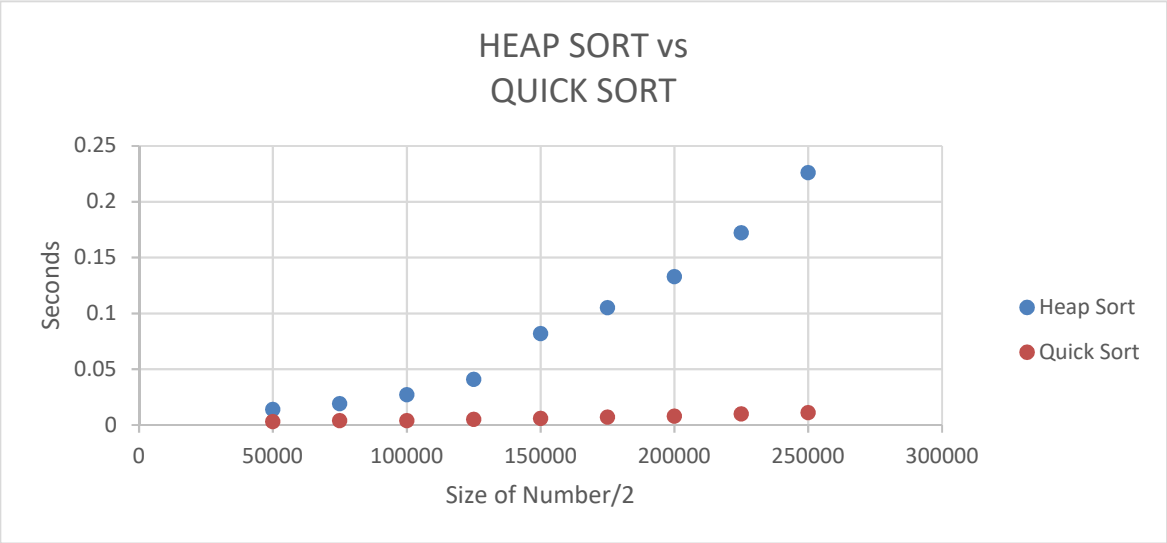
HOMEWORK - 5

K	N	SORT ALL	SORT K	HEAP SORT	QUICK SORT	MEASUREMENT	Times
50000	100000	47.672	16.289	0.014	0.003	seconds	2
75000	150000	102.343	35.248	0.019	0.004	seconds	2
100000	200000	186.678	64.278	0.027	0.004	seconds	2
125000	250000	251.092	86.296	0.041	0.005	seconds	2
150000	300000	321.763	110.862	0.082	0.006	seconds	2
175000	350000	392.102	134.926	0.105	0.007	seconds	2
200000	400000	461.377	158.485	0.133	0.008	seconds	2
225000	450000	530.396	182.714	0.172	0.01	seconds	2
250000	500000	601.394	206.367	0.226	0.011	seconds	2





As shown in the charts above, we can divide the sort types into two groups. The first two sorting algorithms (sort all and sort k) are in the slow group. The average results of the algorithms used in these two sorting types are very useless compared to others. On the other hand, the other two sorting types that are fast in which heap sort and quick sort. There is a daramatic difference between these two types(slow-fast). In order to better understand the difference between these two ranking algorithms, it is necessary to create another chart. As the second graph shows, even if the number of inputs used increases, the difference between the two can be seen in seconds. Lastly, if we sort the algorithm types respect to fast, it should be quick sort, heap sort, sort k, sort all.