Counting sort					
K / n	1000	10000	100000	1M	10M
1000	117.22	626.882	6579.044	16263.513	101094.192
100000	3204.611	4205.313	14596.598	26862.79	246959.61
100M	335110.256	338574.254	360804.151	510612.302	2091107.288

Quicksort					
K / n	1000	10000	100000	1M	10M
1000	766.594	2611.464	17300.52	359274.535	4.16E+07
100000	561.34	2715.901	18707.434	112864.142	1744668.404
100M	592.875	2607.534	16969.028	123365.722	1329972.934

The results here show that counting sort is faster than quicksort, especially whe
quicksort's running times are definitely consistent for an array of size n, if k is ke
sort has a clear performance advantage.

All times are in microseconds.

100M

974814.262
2585672.014
1.88E+07

100M

Did not work due to stack overflow (too many recursive calls)

n n and k are large. While
pt relatively small, then counting