Insertion Sort Analysis

|	1K	5K	10K	15K	20K	25K	50K
Sorted	0	0	0	0	0	0	1
Random	2	60	230	529	949	1539	5853
Reverse	5	118	467	1076	1895	2924	11715
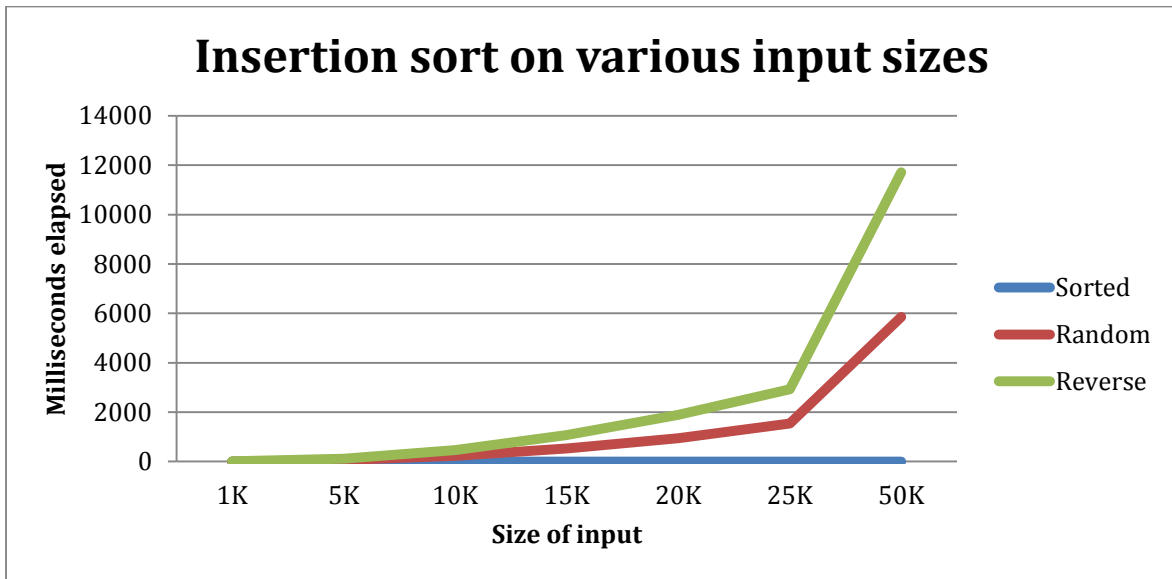
Clearly from this chart, we see that sorted array trivially takes no time while an array of random inputs which would be the average case takes roughly half the time of reversed list and sorted list.

Reversed list being the worst case time, does indeed take the most time. We can really start seeing the difference in time when the input size jumps from 25K to 50K. Furthermore the curve is skewed left.

Quicksort Analysis

	1K	5K	10K	15K	20K	25K	50K
Sorted	0	0	1	1	1	2	3
Random	1	1	2	3	4	5	10
Reverse	0	1	0	1	2	1	4
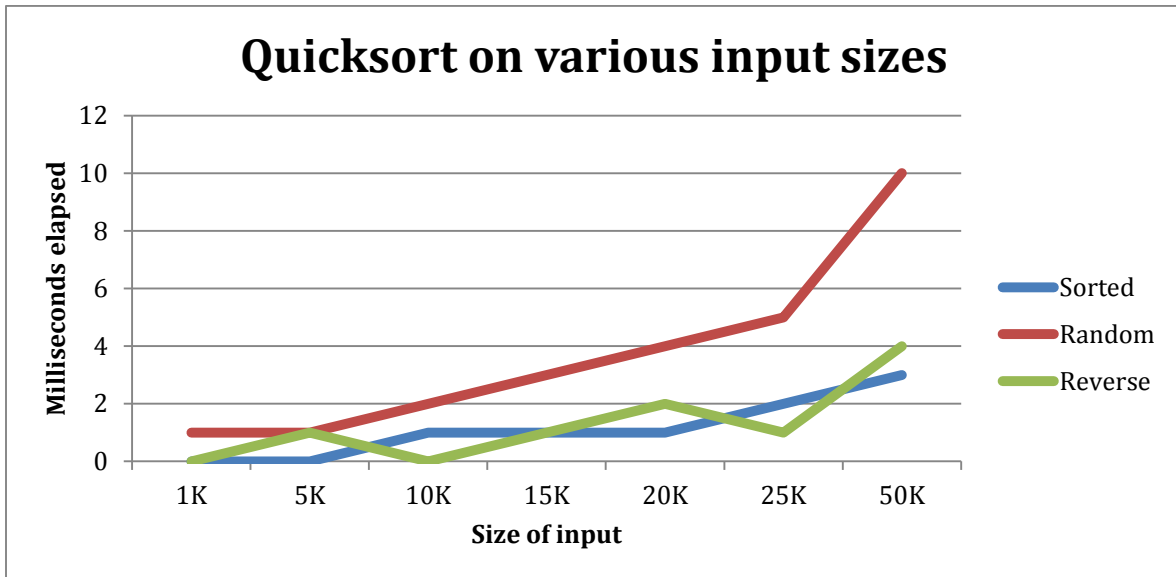
With this graph, we can see that quicksort performs dramatically better than most other sorting algorithms. Notice however that quicksort doesn't perform the worst when the array is completely reversed; instead it takes the most time when the input is random.