Sorting Summary

	In-Place	Stable	# Key Comparisons			Remarks
			Worst	Average	Best	
Bubble Sort	X	X	$N^2 / 2$	$N^2 / 2$	N	never use it
Selection Sort	X		$N^2 / 2$	$N^2 / 2$	$N^2 / 2$	N exchanges
Insertion Sort	X	X	$N^2 / 2$	$N^2 / 4$	N	use as cutoff for small N
Shellsort	X		$N^{3/2}$	$N^{3/2}$	$N^{3/2}$	with Knuth sequence
Quicksort	X		$N^2 / 2$	$2N \ln N$	$N \lg N$	fastest in practice
Mergesort		X	$N \lg N$	$N \lg N$	$N \lg N$	N log N guarantee, stable
Heapsort	X		$2 N \lg N$	$2 N \lg N$	$N \lg N$	N log N guarantee, in-place

	In-Place	Stable	# Byte Comparisons			Remarks
			Worst	Average	Best	
LSD Radix Sort		X	WN	WN	WN	fixed length strings only
MSD Radix Sort		X	WN	$N \log_R N$	N	too much memory
3-Way Radix Quicksort	X		WN	$2 N \lg N$	$N \lg N$	fastest in practice

N = # keys
W = average word length
R = radix