

# UCSC Silicon Valley Extension

## Advanced C Programming

Time Complexity of Sorting Algorithms

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Sorting Algorithm	Worst case time complexity	Space Complexity
Bubble	$O(n^2)$	$O(1)$
Comb	$O(n^2)$	$O(1)$
Gnome	$O(n^2)$	$O(1)$
Insertion	$O(n^2)$	$O(1)$
Merge	$O(n \log n)$	$O(n)$
Quick	$O(n^2)$	$O(\log n)$
Bucket Sort	$O(n^2)$	$O(n)$
Radix	$O(nk)$	$O(n+k)$