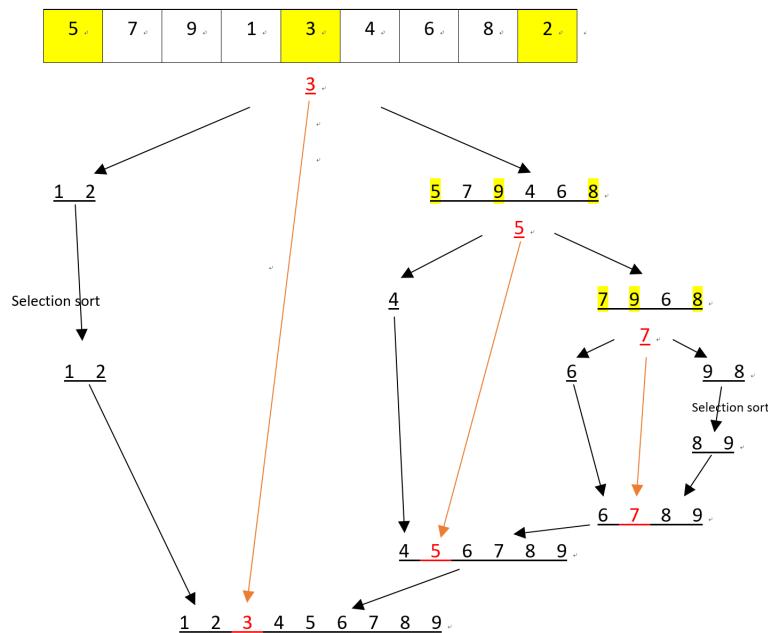


CSE 373 HW6 Write Up

Chongyi Xu

May 29, 2017

1. Using Quick Sort, with the median pivot rule (pick the median of: $\text{data}[\text{lo}]$, $\text{data}[\text{hi} - 1]$, and $\text{data}[(\text{hi} + \text{lo}) / 2]$), sort the following list of numbers. Show your work by drawing the tree of partitions and pivots (as seen in the lecture slides) with the partition rules discussed in lecture (swapping the pivot to index lo and doing swaps to complete the partitions). Apply a cutoff of 3 elements and sort with any sorting method. $\text{data} = [5, 7, 9, 1, 3, 4, 6, 8, 2]$



2. Using Radix Sort with a radix of 6 (letters: a, b, c, d, e, f) to alphabetically sort the following strings, draw contents of each bucket at the end of each radix 'digit' iteration pass. Strings = (abc, da, ffff, defcd, abebd, ca, b, fef, dfe)

00abc	000da	0000b
000da	000ca	00abc
0ffff	0000b	abebd
defcd	00abc	000ca
abebd	defcd	defcd
000ca	abebd	000da
0000b	0ffff	00fef
00fef	00fef	00def
00def	00def	0ffff

0000b	0000b	0000b
000ca	000ca	000ca
000da	000da	000da
00abc	00abc	00abc
00def	00def	00def
abebd	00fef	00fef
defcd	abebd	0ffff
00fef	defcd	abebd
0ffff	0ffff	defcd