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CSCI 303: Algorithms, HW 7

Due: 3:30 pm, Wednesday, 10/24

1. Problem 1

Original	42	57	7	40	83	78	86	89	80	91	79	84	After Line:	Swap/Shift Count:
Quicksort(0, 11)	42	57	7	40	83	78	86	89	80	91	79	84	9	
Quicksort(0, 11)	42	57	7	40	83	79	86	89	80	91	78	84	13	1
Quicksort(0, 11)	42	57	7	40	78	79	86	89	80	91	83	84	27	1
Quicksort(0, 3)	42	57	7	40	78	79	86	89	80	91	83	84	9	
InsertionSort p = 1	42	57	7	40	78	79	86	89	80	91	83	84		0
InsertionSort p = 2	7	42	57	40	78	79	86	89	80	91	83	84		2
InsertionSort p = 3	7	40	42	57	78	79	86	89	80	91	83	84		2
Quicksort(5, 11)	7	40	42	57	78	79	86	89	80	91	83	84	9	
Quicksort(5, 11)	7	40	42	57	78	79	86	89	83	91	80	84	13	1
Quicksort(5, 11)	7	40	42	57	78	79	80	89	83	91	86	84	27	1
Quicksort(5, 5)	7	40	42	57	78	79	80	89	83	91	86	84	9	
Quicksort(7, 11)	7	40	42	57	78	79	80	89	83	91	86	84	9	
InsertionSort p = 8	7	40	42	57	78	79	80	83	89	91	86	84		1
InsertionSort p = 9	7	40	42	57	78	79	80	83	89	91	86	84		0
InsertionSort p = 10	7	40	42	57	78	79	80	83	86	89	91	84		2
InsertionSort p = 11	7	40	42	57	78	79	80	83	84	86	89	91		3

The number of swaps required by quick sort was 10. The number of shifts required by insertion sort was 4.