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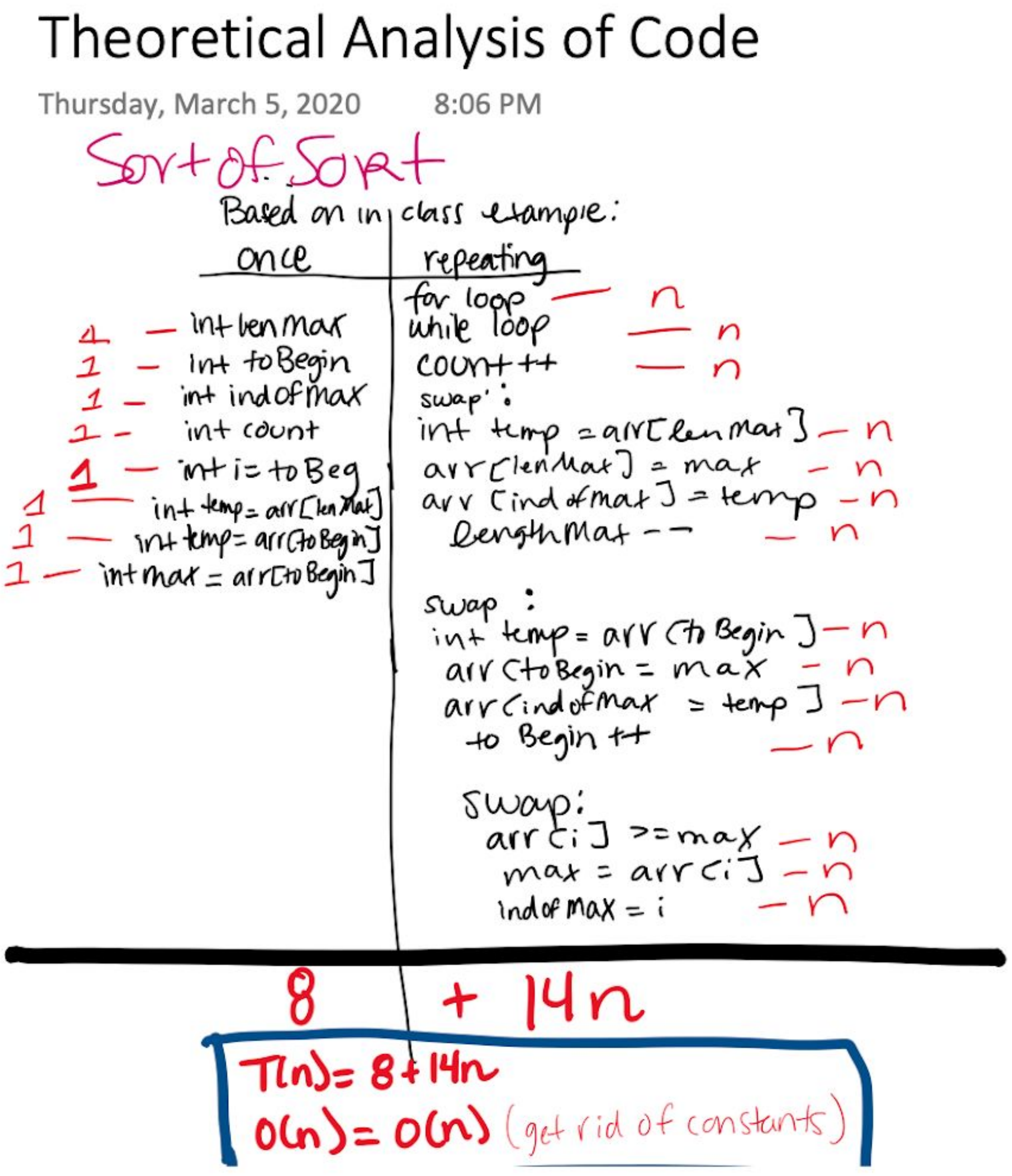

Theoretical Analysis of Code

Thursday, March 5, 2020 8:06 PM

Sort of Sort

Based on in class example:

once	repeating
1 — int lenMax	for loop — n
1 — int toBegin	while loop — n
1 — int indOfMax	count++ — n
1 — int count	swap:
1 — int i = toBeg	int temp = arr[lenMax] — n
1 — int temp = arr[lenMax]	arr[lenMax] = max — n
1 — int temp = arr[toBegin]	arr [indOfMax] = temp — n
1 — int max = arr[toBegin]	LengthMax -- — n
	swap :
	int temp = arr[toBegin] — n
	arr[toBegin = max — n
	arr[indOfMax = temp] — n
	toBegin ++ — n
	swap:
	arr[i] >= max — n
	max = arr[i] — n
	indOfMax = i — n
8	+ 14n

T(n)= 8+14n
O(n)= O(n) (get rid of constants)

Average case: O(n). If my understanding is correct, the average should be the length of the array. In the test cases, n will always be 8.
Best case: O(n). The best case would be where n is the smallest amount it can be.
Worst case: O(n). The worst case would be if we have a large n (infinity).