Quiz 8 (teamwork quiz)

Write down your problem solving process and how you get to the solution. No points is given without explanation. You don’t need to calculate out the final number.
Name:
ID #:
Master method: consider $t(n) = 3 \, t(n/2) + n$, draw the recurrence tree and use master method to get the approximation of $t(n)$

Discussion: Consider the following two sorting algorithms. Give your reasoning on which one might have a better performance.
1. **Merge sort** discussed in last class
2. **Bubble sort**: works by repeatedly stepping through the list to be sorted, comparing two items at a time and swapping them if they are in the wrong order. The pass through the list is repeated until no swaps are needed, which means the list is sorted. (The algorithm gets its name from the way smaller elements “bubble” to the top of the list via the swaps.)