

Assignment 2

csci2200, Algorithms

Instructions:

- HONOR CODE: WORK ON THIS ASSIGNMENT ALONE, OR WITH ONE PARTNER. BETWEEN DIFFERENT TEAMS, COLLABORATION IS AT LEVEL 1 [VERBAL COLLABORATION ONLY]
 - Check out the Homework guidelines on class website.
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For each algorithm below, give their runtime recurrence, and solve it.

We expect: (1) the recurrence (2) two steps of iteration (3) the pattern after i steps of iteration; (4) derivation of the recursion depth; (5) the final $\Theta()$ bound

AlgorithmA(n):
<ul style="list-style-type: none">• Do something that takes $O(1)$• AlgorithmA($n/4$)
1. <ul style="list-style-type: none">• Do something that takes $O(1)$• AlgorithmA($n/4$)• Do something that takes $O(1)$• AlgorithmA($n/4$)

AlgorithmB(n):
<ul style="list-style-type: none">• Do something that takes $O(1)$• AlgorithmB($n/2$)
2. <ul style="list-style-type: none">• Do something that takes $O(n)$• AlgorithmB($n/2$)• Do something that takes $O(n^2)$• AlgorithmB($n/2$)

3.	<p>AlgorithmC(n):</p> <ul style="list-style-type: none">• Do something that takes $O(1)$• AlgorithmC($n/3$)• Do something that takes $O(n)$• AlgorithmC($n/3$)
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