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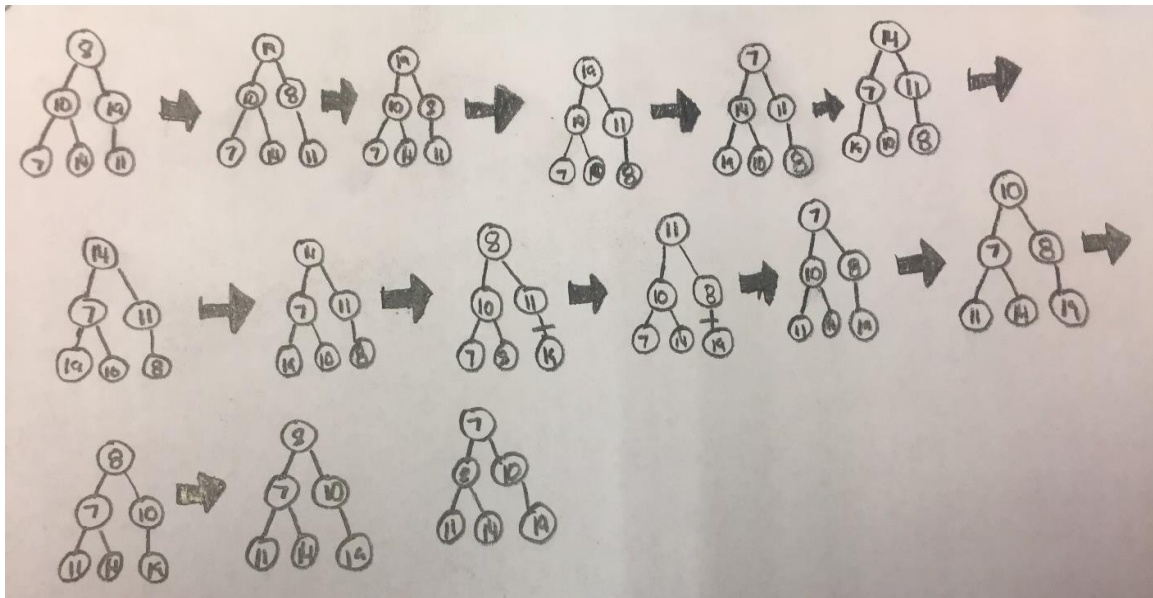
Dr. Antov

Intro to Algorithm Analysis

March 9<sup>th</sup>, 2017

## Introduction to Algorithm Analysis

1.



2.

1.  $n = 10$  27 swaps  $c = 0.27$   
 $n = 10^2$  2262 swaps  $c = 0.2262$   
 $n = 10^3$  214212 swaps  $c = 0.214212$   
 $n = 10^4$  21440712 swaps  $c = 0.21440712$   
 $c_I \in 0.214$

2.  $n = 10$  34 swaps  $c = 3.2$

$$n = 10^2 \text{ 671 swaps } c = 3.35$$

$$n = 10^3 \text{ 9919 swaps } c = 3.31$$

$$n = 10^4 \text{ 132919 swaps } c = 3.32$$

$$c_H \in 3.34$$

$$n \leq 20$$

Insertion sort is faster.

3.

The test results show for small values, InsertionSort is faster but over 20, HeapSort is much more faster to use.