

COEN 352 - Assignment #1

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Asymptotic Analysis

Problem 2 - Linked-List based Dictionary

Operation	Worst Case	Average Case	Best Case
clear()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$
insert()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
remove()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
removeAny()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$
find()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
size()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$

Problem 4 - Doubly Linked-List based Dictionary

Operation	Worst Case	Average Case	Best Case
clear()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$
insert()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
remove()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
removeAny()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$
find()	$\Theta(n)$	$O(n) \ \& \ \Omega(1)$	$\Theta(1)$
size()	$\Theta(1)$	$\Theta(1)$	$\Theta(1)$