Assignment 2

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1 Introduction

Exercise 1:

$$\Theta(4n + n^2) = \Theta(n^2)$$

$$t_1(n) = (n^2 + n)$$

$$t_2(n) = (n^2)$$

$$t_1(n) - t_2(n) = o(n^2)$$

$$\Theta(n^2 log(n))$$
$$t_4(n^2)$$

$$\Theta(n^2)$$

This is how to make a table:

A	B	O	o	Ω	ω	Θ
$lg^k n$	n^ϵ	yes	yes	no	no	no
n^k	c^n	yes	yes	no	no	no
$\sqrt{n}$	$n^{\sin n}$	no	no	no	no	no
2^n	$2^{n/2}$	no	no	yes	yes	no
n^{lgc}	c^{lgn}	yes	no	yes	no	yes
$lg(n!)$	$lg(n^n)$	yes	no	yes	no	yes