Laboratorio #3

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1 Problema #1 - Método de Sustitución

1.1 Inciso 1: $T(n-1)+n = O(n^2)$

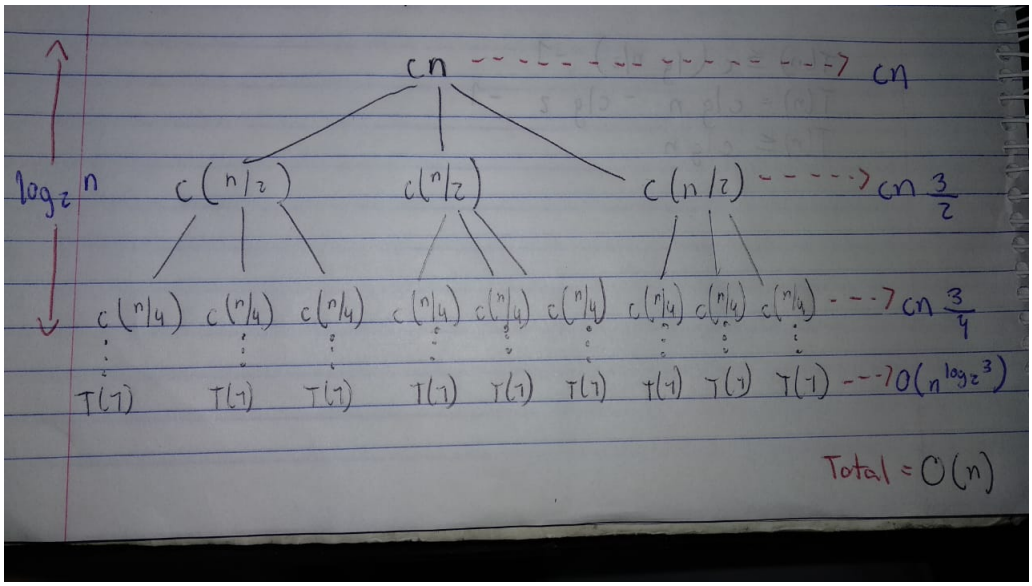
$T(n) <= c(n-1)^2 + n$
$T(n) <= c(n^2 - 2n + 1) + n$
$T(n) <= cn^2 - 2cn + c + n$
$T(n) <= cn^2$
$T(n) <= n^2$

1.2 Inciso 2: $T(n/2)+1 = O(log(n))$

$T(n) <= c(log(n/2)) + 1$
$T(n) <= c * log(n) - c * log(2) + 1$
$T(n) <= c * log(n)$
$T(n) <= log(n)$

2 Problema #2 - Método de Árbol Recursivo

2.1 Inciso 1: $T(n) = 3T(n/2) + n$



$T(n) <= 3(c(log(n/2))) + n$

$T(n) <= 3cn + n$

$T(n) <= n + n$

$T(n) <= n$

3 Problema #3