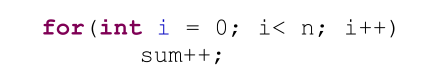
**Ejercicio 7**

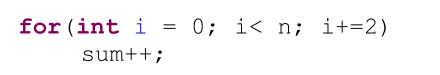
Para cada uno de los siguientes fragmentos de código, calcule, intuitivamente, el orden del tiempo de

ejecución.

a\_

O(n)

b\_



(1) i = 0

(2) i = 2

(3) i = 4  
(4) i = 6

…

(k) i = 2(k-1)

2(k-1) = n-1

2k - 2 = n-1

2k -2 +1= n

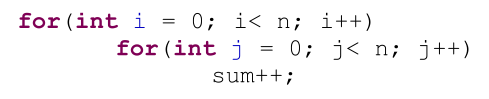
2k - 1 = n

2k = n + 1

k = (n + 1) / 2

Por lo tanto es de O(n)

c\_



sumatoria externa:

1. i = 0
2. i = 1
3. i = 2

…

(k) i = k -1

n - 1 = k - 1

k = n

sumatoria interna:

1. j = 0
2. j = 1
3. j = 2

…

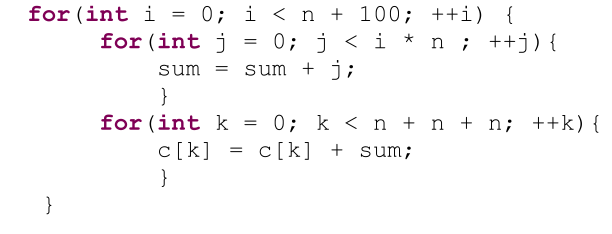
(k) j = k -1

n - 1 = k - 1

k = n

Por lo tanto es de O(n2)

d\_



cte1 + cte2) —> (i\*n \* cte1 + 3n \* cte2)

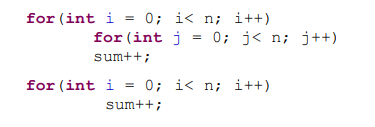
n\*((i\* cte1) + (3\* cte2) = n\* cte \*i + 3 =

n\* cte \* (() + 3n + 300) =

cte\*n (()+3n + 300) =

+ 3n2\*cte + 300n\*cte → o(n3)

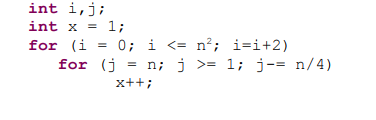
e\_



cte2 —-> n (n + cte1) + n cte2

—> n2 + n cte1 + n cte2 —> o(n2)

f)



Iteracion externa

r i 2(k-1) = n2

1 0 k -1 = n2/2

2 2 k = (n2/2) +1

3 4

k 2(k-1)

Iteracion interna

r i

1 n

2 3/4n

3 2/4n

4 1/4n

\* (4\* cte) = *4*\* cte = (n2/2 + 1) \*4cte ---> o(n2)