Algorithmics	Student information	Date	Number of session
	UO: 297383	17/02/2025	1.2
	Surname: Herrero Sánchez		
	Name: Iván		

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Universidad de Oviedo

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Universidá d'Uviéu
University of Oviedo

Activity 1. [Iterative Models]

Table 1. In milliseconds and without optimization. CHANGE THIS USING THE CORRECT THING

N	tLoop1	tLoop2	tLoop3	tLoop4
100	46*10^-4	48*10^-4	334*10^-4	190*10^-4
200	82*10^-4	160*10^-4	1411*10^-4	885*10^-4
400	139*10^-4	729*10^-4	60*10^-2	4400*10^-4
800	426*10^-4	332*10^-3	267*10^-2	262*10^-2
1600	920*10-4	106*10^-2	1278*10^-2	1879*10^-2
3200	198*10^-3	437*10^-2	5182*10^-2	126
6400	422*10^-3	1612*10^-2	225	836
12800	959*10^-3	6977*10^-2	973	5902
25600	557*10^-5	205*10^-2	4055	43585
51200	110*10^-4	431*10^-2	20690	OoT

For Loop1 it has a complexity of O(n*log(n)), but it increase by 2.

For Loop2 it has a complexity of O(n^2*log(n)), it follows it.

Loop 3 has a complexity of O(n^2*log(n)), it follows the complexity.

Loop 4 has a complexity of O(n^3),

Activity 2. [Create models of given complexity]

N	tLoop5	tLoop6	tLoop7
100	153*10^-4	107*10^-2	577
200	286*10^-4	652*10^-2	8233
400	965*10^-4	61	OoT
800	3661*10^-4	615	OoT
1600	144*10^-2	4777	OoT

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3200	61*10^-1	42739	OoT
6400	221*10^-1	OoT	OoT

Loop5 complexity is O(n^2*log^2(n))

Loop6 complexity is O(n^3*log(n))