

Algorithms	Student information	Date	Number of session
	UO: UO293079	16/02/2022	3
	Surname: Gavalas		
	Name: Dimitrios		



Activity 1. Two algorithms with the same complexity

[ANSWER].

Intel(R) Pentium(R) Gold G5400 CPU @ 3.70GHz 3.70 GHz

8,00 GB (7,87 GB usable)

>50

N	Loop2(t)	Loop3(t)	Loop2(t)/ Loop3(t)
2048	113	60	1
4096	389	188	1
8192	1488	789	2
16384	6750	3073	2
32768	26884	12550	2

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Activity 2. Two algorithms with different complexity

[ANSWER].

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N	Loop1(t)	Loop2(t)	Loop1(t)/ Loop2(t)
2048	160	129	1
4096	487	437	1
8192	1894	1704	1
16384	7670	6897	1
32768	28575	27247	1

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Activity 3. Complexity of other algorithms

N	Loop4(t)	Loop5(t)	Loop4(t)/ Loop5(t)
64	64	11	5
128	638	1	638
256	9327	12	777
512	126442	87	1453
1024		671	
2048		5804	
4096		48455	
8192			
16384			
32768			

Activity 4. Study of Unknown.java

[ANSWER].

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unknown has a complexity $O(n^3)$.

N	Unkown		
8	0		
16	1		
32	3		
64	2		
128	5		
256	35		
512	250		
1024	1277		
2048	8246		
4096	55622		