


Algorithmics	Student information	Date	Number of session
	UO:302165	30/01/2025	0
	Surname: Uña Garcia	 Escuela de Ingeniería Informática Universidad de Oviedo	
	Name: Lucas		



Activity 1. [problem size]

PythonA1	Computer1	
n	time(ms)	comments
10000	1557	
20000	6510	
40000	25669	
80000	-----	Oot
160000	-----	Oot
320000	-----	Oot
640000	-----	Oot

Activity 2. [computer performance]

CPU1: 12th Gen Intel(R) Core(TM) i5-12400 2.50 GHz
RAM1: 16,0 GB

CPU2: Intel(R) Core(TM) i5-7500 CPU @ 3.40GHz 3.40 GHz
RAM2: 8,00 GB

PythonA1	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	1557		5018	
20000	6510		11893	
40000	25669		43253	
80000	-----	Oot	-----	Oot
160000	-----	Oot	-----	Oot
320000	-----	Oot	-----	Oot
640000	-----	Oot	-----	Oot

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Activity 3. [implementation environment]

JavaA1(with op)	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	76		115	
20000	292		501	
40000	1153		1848	
80000	4622		7389	
160000	18423		28217	
320000	Oot		-----	Oot
640000	Oot		-----	Oot

Activity 4. [algorithm that is used]

PythonA1	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	1557		5018	
20000	6510		11893	
40000	25669		43253	
80000	-----	Oot	-----	Oot
160000	-----	Oot	-----	Oot
320000	-----	Oot	-----	Oot
640000	-----	Oot	-----	Oot

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PythonA2	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	212		358	
20000	732		1559	
40000	2597		4431	
80000	9533		15788	
160000	36390		59346	
320000	-----	Oot	-----	Oot
640000	-----	Oot	-----	Oot

PythonA3	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	93		163	
20000	346		606	
40000	1309		2370	
80000	4930		8313	
160000	18081		29512	
320000	-----	Oot	-----	Oot
640000	-----	Oot	-----	Oot

JavaA1(with op)	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	76		115	
20000	292		501	
40000	1153		1848	
80000	4622		7389	
160000	18423		28217	
320000	Oot		-----	Oot
640000	Oot		-----	Oot

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JavaA2(with op)	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	10		16	
20000	32		49	
40000	118		181	
80000	416		709	
160000	1538		2601	
320000	5987		9424	
640000	22171		35626	

JavaA3(with op)	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	6		17	
20000	16		32	
40000	58		101	
80000	210		357	
160000	783		1369	
320000	2893	Oot	4864	
640000	10928	Oot	17625	

JavaA1	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	79		1542	
20000	300		6275	
40000	1151		25289	
80000	4690		-----	Oot
160000	18502		-----	Oot
320000	-----	Oot	-----	Oot
640000	-----	Oot	-----	Oot

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JavaA2	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	11		1542	
20000	35		6275	
40000	115		25289	
80000	418		-----	Oot
160000	1540		-----	Oot
320000	5851		-----	Oot
640000	22175		-----	Oot

JavaA3	Computer1		Computer2	
n	time(ms)	comments	time(ms)	comments
10000	5		1542	
20000	17		6275	
40000	59		25289	
80000	207		-----	Oot
160000	769		-----	Oot
320000	2984		-----	Oot
640000	11065		-----	Oot

There are not significant differences between the times in java with optimization and without it because the optimization of java is not efficient for these algorithms.

The time spent with Java is much lower than the one spent with Python, this is because of the inner implementation of the languages used.