

Algorithmics	Student information	Date	Number of session
	UO:294665	20/02/24	1
	Surname: Garcia Castro		
	Name: Gonzalo		



Escuela de  
Ingeniería  
Informática  
Universidad de Oviedo



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## Activity 1. Factor 1 (problem size)

Procesador :Intel(R) Core(TM) i7-4790 CPU @ 3.60GHz 3.60 GHz

RAM: 16.00 GB

Python A1:

N	TIME (seconds)
10000	2,474
20000	10,642
40000	42,236
80000	Oot
160000	Oot
320000	Oot
640000	Oot

## Activity 2. Factor 2 (computer power)

Procesador: Intel(R) Core(TM) i5-1035G1 CPU @ 1.00GHz 1.19 GHz

RAM: 16.0 GB

Python A1:

N	TIME (seconds)
10000	2,098
20000	8,512
40000	33,785
80000	Oot
160000	Oot
320000	Oot
640000	Oot

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## Activity 3. Factor 3 (implementation environment)

Java A1:

N	TIME (seconds)
10000	0,124
20000	0,477
40000	1,914
80000	7,238
160000	28,300
320000	Oot
640000	Oot

As we can see, java is much faster than python as it is an older language.

## Activity 4. Factor 4 (algorithm that is used)

Python A2:

N	TIME (seconds)
10000	0,284
20000	1,114
40000	4,880
80000	15,083
160000	59,510
320000	Oot
640000	Oot

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Python A3:

N	TIME (seconds)
10000	0,148
20000	0,540
40000	2,01
80000	9,576
160000	30,291
320000	Oot
640000	Oot

Java A1 without optimization:

N	TIME (seconds)
10000	0,460
20000	1,789
40000	6,871
80000	Oot
160000	Oot
320000	Oot
640000	Oot

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Java A2 without optimization:

N	TIME (seconds)
10000	0,053
20000	0,178
40000	0,691
80000	2,466
160000	9,345
320000	34,357
640000	Oot

Java A3 without optimization:

N	TIME (seconds)
10000	0,029
20000	0,095
40000	0,357
80000	1,262
160000	4,755
320000	21,474
640000	Oot

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Java A1 with optimizacion:

N	TIME (seconds)
10000	0,124
20000	0,477
40000	1,914
80000	7,238
160000	28,3
320000	Oot
640000	Oot

Java A2 with optimizacion:

N	TIME (seconds)
10000	0,016
20000	0,050
40000	0,18
80000	0,689
160000	2,632
320000	10,038
640000	35,163

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Java A3 with optimizacion:

N	TIME (seconds)
10000	0,009
20000	0,031
40000	0,1
80000	0,34
160000	1,224
320000	4,599
640000	17,88