Algorithmics	Student information	Date	Number of session
	UO: 293693	08/02/2024	1.1
	Surname: Castro Álvarez		
	Name: Ana		

Escuela de Ingeniería Informática
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Activity 3. Measuring execution times

In 292 471 154 years.

It means that the two calls are so close in time that is practically instantaneous

We get a reliable time from: SIZE=7000000 TIME=57 milliseconds SUM=47327

Activity 5. Taking small execution times (<50 ms)

Original version: SIZE=156250 TIME=11 milliseconds SUM=-2401 NTIMES=5

When the problem size is multiplied by 2, the size reaches around four times of the original size. SIZE=655360 TIME=27 milliseconds SUM=-20462 NTIMES=5

When the problem size is multiplied by 3, the size reaches more than 3 times of the original size. SIZE=590490 TIME=25 milliseconds SUM=-27459 NTIMES=5

N = 100	Tsum	Tmaximum	Tmatches1(1)	Tmatches2
10000	0,13	0,2	1741	0,2
20000	0,29	0,42	6475	0,41
40000	0,82	0,84	25867	0,77
80000	1,25	1,89	104413	1,55
160000	3,29	3,59	372672	3,49
320000	5,69	6,59	1684180	7,18
640000	9	13,27	-----	12,6
1280000	16,06	23,67	-----	24,48
2560000	32,38	49,59	-----	57,83
5120000	66,71	108,65	-----	100,59
10240000	128,95	226,18	-----	195,19
20480000	291,09	396,61	-----	412,52
40960000	542,1	764,75	-----	828,74
81920000	1029,01	1532,96	-----	1556,52

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Processor: 13th Gen Intel(R) Core(TM) i7-13700H 2.40 GHz

Installed RAM: 16 GB

The times obtained meet the expectations as is the matches1() we are executing an $O(n^2)$ algorithm while the rest are O(n), so the times for that one are greater