	Student information	Date	Number of session
Algorithmics	UO: 283928	03/29	Session 5
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Informática

## Activity 1. Execution times of the algorithm.

Name: Gonzalo

Size(chars)	Time(ms)	
2	200	3
4	400	3
8	800	8
16	600	13
32	200	23
64	400	97
128	800	404

The complexity of this algorithm is O( n\*m ), where n and m are the length of the first and the second strings, respectively. In our very case, as both strings have the same length, the complexity can be simplified as O(n<sup>2</sup>).

Now, let us compute if the execution times resemble to the estimated values:

$$T2 = T1 * f(n2) / f(n1)$$
, where  $k^c = n2 / n1$ 

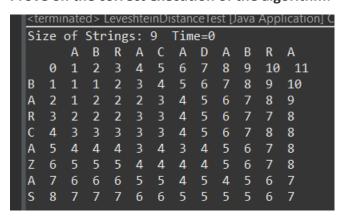
Then:

$$T2 = 4 * T1$$

That is, as it is an algorithm which complexity is quadratic, for workloads large enough, each execution time will be, approximately, four times the previous case.

Can be easily seen on the table that this is hold from size n = 3200 with almost no error.

## Prove on the correct execution of the algorithm:



As seen in lab sessions with this very example, the result is the same(7).