**Time Complexity: O(mn)**

m | n = string1 | string2

both strings can have different lengths

If n = 0 | O(1)

If n > 0 |

Best Case: O(n)

Worst Case: O(mn)

**What growth is it called?**

* “In mathematics, functions like this are called [multilinear](http://en.wikipedia.org/wiki/Multilinear_form) functions. But computer scientists probably won't generally know this terminology. This function should definitely not be called linear, either in mathematics or computer science, unless you can reasonably consider one of mm and nn a constant.”

Reference:

<https://cs.stackexchange.com/questions/9523/is-omn-considered-linear-or-quadratic-growth>

**Can it not be n^2?**

* Only if m <= n, we are uncertain of the inputs, so it’s much better to portray it as O(mn)

Reference:

<https://stackoverflow.com/questions/62029931/is-time-complexity-onm-equal-to-on2-if-m-n>

**Notes:**

* n^2 is called quadratic
* Different Time Complexities:

<https://adrianmejia.com/most-popular-algorithms-time-complexity-every-programmer-should-know-free-online-tutorial-course/>