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# Minimum edit distance algorithm

When computing the minimum edit distance, you would start with a *source word* and transform it into the *target word*. Let's look at the following example:

Source: play → Target: stay

Cost: insert: 1, delete: 1, replace: 2

$p \rightarrow s$

insert + delete:  $p \rightarrow ps \rightarrow s$ : 2

delete + insert:  $p \rightarrow \# \rightarrow s$ : 2

replace:  $p \rightarrow s$ : 2

		0	1	2	3	4
		#	s			
0	#	0	1			
1	p	1	2			
2						
3						
4						

To go from  $\# \rightarrow \#$  you need a cost of 0. From  $p \rightarrow \#$  you get 1, because that is the cost of a delete.  $p \rightarrow s$  is 2 because that is the minimum cost one could use to get from **p** to **s**. You can keep going this way by populating one element at a time, but it turns out there is a faster way to do this. You will learn about it next.

Mark as completed