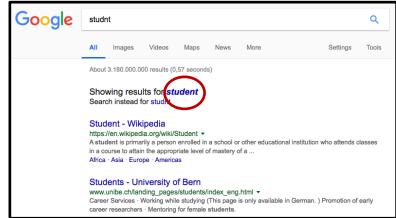


## Word Similarity Distance



$u^b$  Mohammad Ghafari



Google | studnt

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About 5,180,000,000 results (0.87 seconds)

Showing results for **studnt**

Search instead for **student**

**Student - Wikipedia**  
studnt.nw.ubibe.ch/studning\_pagedaten/studnet.html •  
A student is primarily a person enrolled in a school or other educational institution who attends classes  
in a course to attain the appropriate level of mastery of a ...  
Africa Asia Europe Americas

**Students - University of Bern**  
www.unibe.ch/studning\_pagedaten/studnet.html •  
Career guidance and studying (This page is only available in German.) Promotion of early  
career researchers · Mentoring for female students.

## Edit distance (D)

The minimum number of operations required to convert one string to another string.

Diagram illustrating edit distance operations:

- studnt → student +
- studnt → studn~~t~~y - - +
- gold → sold ⊕

3

## From “studnt” to “study”

	null	s	t	u	d	y
null	0	1	2	3	4	5
s	1	0				
t	2					
u	3					
d	4					
n	5					
t	6					

Diagram illustrating the edit distance matrix for "studnt" to "study". A red arrow points to the cell at (studnt, t) with value 4, labeled "remove". A red box contains "insert" and "remove / replace / no operation".

4

### From “student” to “study”

	null	s	t	u	d	y
null	0	1	2	3	4	5
s	0	0	1	2	3	4
t	2	1	0	1	2	3
u	3	2	1	0	1	2
d	4	3	2	1	0	1
n	5	4	3	2	1	1
t	6	5	4	3	2	2

insert  
remove  
replace / no operation

5

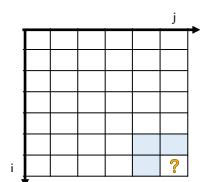
### From “student” to “study”

	null	s	t	u	d	y
null	0	1	2	3	4	5
s	0	0	1	2	3	4
t	2	1	0	1	2	3
u	3	2	1	0	1	2
d	4	3	2	1	0	1
n	5	4	3	2	1	1
t	6	5	4	3	2	2

insert  
remove  
replace / no operation

6

### Algorithm



$$D(i, j) = \min \begin{cases} D(i - 1, j) + 1 \\ D(i, j - 1) + 1 \\ D(i - 1, j - 1) + \delta \begin{cases} 0 & s_i = s_j \\ 1 & s_i \neq s_j \end{cases} \end{cases}$$

7

### Exercise

Implement the similarity distance algorithm, and then compute the similarity between two given sentences.

8