NLP Assignment

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Compute the edit distance (using insertion cost 1, deletion cost 1, substitution cost 1) of "leda" to "deal". Show your work (using the edit distance grid)

Solution:

L	E	D	A
D	E	D	A
D	E	A	A
D	E	A	L

Substitute 'L' with 'D' → Substitution cost 1
Substitute 'D' with 'A' → Substitution cost 1
Substitute 'A' with 'L' → Substitution cost 1

Thus there are total three substitutions costing one each. Hence the total edit distance is 3.

Figure out whether drive is closer to brief or to divers and what the edit distance is to each. You may use any version of distance that you like.

Solution:

Minimum edit distance between 'drive' and 'brief' is computed in the table below.

Src/trg	#	D	R	I	V	E
#	0	1	2	3	4	5
B	1	2	3	4	5	6
R	2	3	2	3	4	5
I	3	4	3	2	3	4
E	4	5	4	3	4	5
f	5	6	5	4	3	4

Thus the edit distance between drive and brief is 4

Minimum edit distance between ‘drive’ and ‘divers is computed in the table below.

Src/trg	#	D	I	V	E	R	S
#	0	1	2	3	4	5	6
D	1	0	1	2	3	4	5
R	2	1	2	3	4	3	4
I	3	2	1	2	3	4	5
V	4	3	2	1	2	3	4
E	5	4	3	2	1	2	3

Thus the edit distance between drive and brief is 3

Hence ‘divers’ is closer to ‘drive’ as opposed to ‘brief’