Q2 – Computing minimum edit distances by hand, figure out whether "drive" is closer to "brief" or to "divers" and what the edit distance is. Use 1-ins, 1-delete and 2-substitution costs.

Solution –

	NULL	b	r	i	e	f	← Target
NULL	0	1	2	3	4	5	
d	1	2	3	4	5	6	
r	2	3	2	3	4	5	
i	3	4	3	2	3	4	
v	4	5	4	3	4	5	
e	5	6	5	4	3	4	
↑							

Source

	NULL	d	i	v	e	r	s	← Target
NULL	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	
↑								

Source

drive → brief

Edit distance = 4.

drive → divers

Edit distance = 3.

Therefore, "drive" is closer to "divers" than it is to "brief".

Q3 – Design an FSA to recognize simple date expressions like March 15, the 22nd of November, Christmas. Extend this date FSA to handle deictic expressions like Yesterday, tomorrow, a week from tomorrow, the day before Yesterday, Sunday, next Monday, three weeks from Saturday

Solution –