

Lo-7

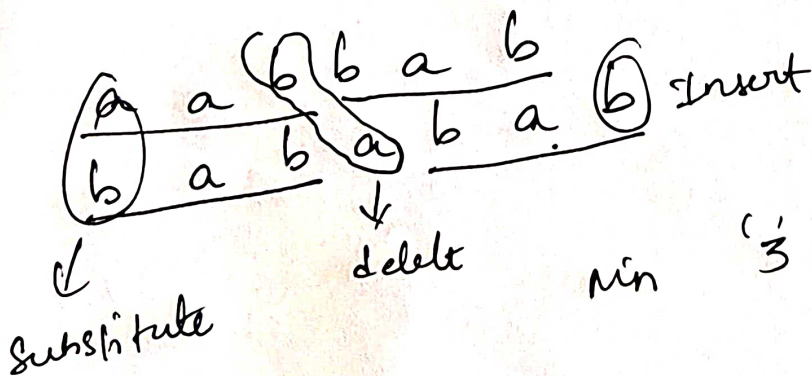
Edit Distance

$d(i,j) \rightarrow$ Min no. of edits to convert first 'i' characters of string 1 to first 'j' characters of string 2

$$d(i,j) = \begin{cases} j & \text{if } i=0 \\ i & \text{if } j=0 \\ \min(d(i-1,j)+1, d(i,j-1)+1, \\ d(i-1,j-1) + (u_i \neq v_j)) \end{cases}$$

		a	b	a	b	a	b	a
a	0	1	2	3	4	5	6	
a	1	1	2	3	4	5		
a	2	2	1	2	2	3	4	
b	3	2	2	1	2	2	3	
b	4	3	3	2	2	2	3	
a	5	4	3	3	2	3	2	
b	6	5	4	3	3	2	3	

left \rightarrow insert
 up \rightarrow delete
 diagonal \rightarrow substitute



Min '3 operations' required