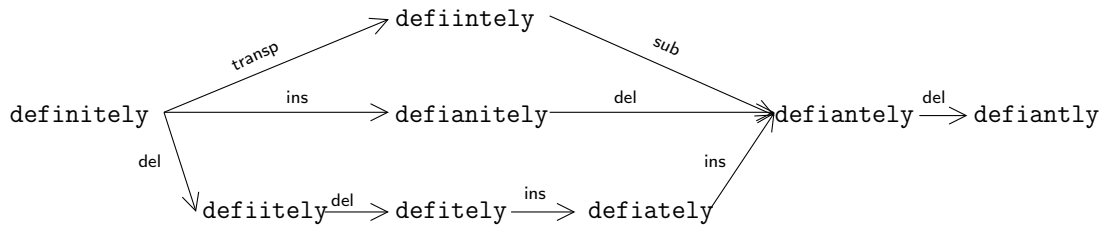


recieve $\xrightarrow{\text{del}}$ receve $\xrightarrow{\text{ins}}$ receive versus recieve $\xrightarrow{\text{transp}}$ receive

seperate $\xrightarrow{\text{del}}$ seprate $\xrightarrow{\text{ins}}$ separate versus seperate $\xrightarrow{\text{sub}}$ separate



6	craven └	craven c	craven ca	craven car	craven carv	craven carvi	craven carvin	craven carving
5	crave └	crave c	crave ca	crave car	crave carv	crave carvi	crave carvin	crave carving
4	crav └	crav c	crav ca	crav car	crav carv	crav carvi	crav carvin	crav carving
3	cra └	cra c	cra ca	cra car	cra carv	cra carvi	cra carvin	cra carving
2	cr └	cr c	cr ca	cr car	cr carv	cr carvi	cr carvin	cr carving
1	c └	c c	c ca	c car	c carv	c carvi	c carvin	c carving
0	└ └	└ c	└ ca	└ car	└ carv	└ carvi	└ carvin	└ carving
	0	1	2	3	4	5	6	7

$C = [\text{ins}, \text{del}, \text{subst}, \text{transp}, \text{nop}]$

$$D[i][j] = \begin{cases} 0 & \text{if } i = j = 0 \\ j \cdot C[0] & \text{if } i = 0 \text{ and } j > 0 \\ i \cdot C[1] & \text{if } i > 0 \text{ and } j = 0 \\ \min \left(\begin{array}{l} C[0] + D[i-1][j] \\ C[1] + D[i][j-1] \\ C[2] + D[i-1][j-1] \\ C[3] + D[i-2][j-2] \quad \text{if } X[i-1] = Y[j-2] \\ \quad \text{and } X[i-2] = Y[j-1] \\ C[4] + D[i-1][j-1] \quad \text{if } X[i-1] = Y[j-1] \end{array} \right) & \text{Otherwise} \end{cases}$$

n	6/ins-all	5/ins	4/ins	4/ins	3/ins	3/ins	2/nop	3/del
e	5/ins-all	4/ins	3/ins	3/ins	2/ins	2/sub	3/del	4/del
v	4/ins-all	3/ins	2/ins	2/ins	1/nop	2/del	3/del	4/del
a	3/ins-all	2/ins	1/nop	1/transp	2/del	3/del	4/del	5/del
r	2/ins-all	1/ins	1/sub	1/nop	2/del	3/del	4/del	5/del
c	1/ins-all	0/nop	1/del	2/del	3/del	4/del	5/del	6/del
	0/del-all	1/del-all	2/del-all	3/del-all	4/del-all	5/del-all	6/del-all	7/del-all
		c	a	r	v	i	n	g

c a r v i n g
 nop transp nop sub nop del
 c r a v e n