

LCS example

	0	1	2	3	4	5	6	7	8	9	10	11	12
	<u>a</u>	<u>c</u>	g	g	c	<u>g</u>	<u>g</u>	a	<u>t</u>	a	c	g	
g	0	7	7	6	6	6	5	4	3	3	2	1	0
g	1	6	6	6	5	5	5	4	3	3	2	1	0
c	2	6	5	5	5	4	4	4	3	3	2	1	0
a	3	6	5	4	4	4	4	3	3	3	2	1	0
c	4	5	5	4	4	4	3	3	3	3	2	1	0
c	5	4	4	4	4	3	3	3	3	3	2	1	0
a	6	3	3	3	3	3	3	3	3	3	2	1	0
c	7	2	2	2	2	2	2	2	2	2	2	1	0
g	8	1	1	1	1	1	1	1	1	1	1	1	0
	9	0	0	0	0	0	0	0	0	0	0	0	0

g
g
c
a

a
c
g

g g c a a c g

$$\text{opt}[i][j] = \max(\text{opt}[i, j+1], \text{opt}[i+1][j])$$

$$\text{opt}[i][j] = \text{opt}[i+1, j+1] + 1$$