LCS_LENGTH (X, Y)

```
1.  m ← length [x]
2.  n ← length[Y]
3   for i ← 1 to m
4.      c[i,0] ← 0
5   for j ← 0 to n
6.      c[0,j] ← 0
7.  for i ← 1 to m
8.      for j ← 1 to n
5.          if (xi = yj)
10.             c[i,j] ← c[i-1,j-1]+1
                b[i,j] ← "↖"
11.         else if c[i-1,j] ≥ c[i,j-1]
12.             c[i,j] ← c[i-1,j]
13.             b[i,j] ← "↑"
14.         else if c[i,j] ← c[i,j-1]
15.             b[i,j] ← "←"
16.
17 return c & b.
```

X = ⟨A, B, C, B, D, A, B⟩
Y = ⟨B, D, C, A, B, A⟩
Z = ⟨B C B A⟩

longest common subsequence.

	y_j	B	D	C	A	B	A
x_i	0	0	0	0	0	0	0
A	0	(0↑)	0↑	0↑	1↖	1←	1↖
B	0	(1↖)	(1←)	1←	1↑	2↖	2←
C	0	1↑	1↑	(2↖)	(2←)	2↑	2↑
B	0	1↖	1↑	2↑	2↑	(3↖)	3←
D	0	1↑	2↖	2↑	2↑	(3↑)	3↑
A	0	1↑	2↑	2↑	3↖	3↑	(4↖)
B	0	1↖	2↑	2↑	3↑	4↖	(4↑)