

# Review 8-3

1. Fill in the blanks in the following LCS computation.

	$j$	0	1	2	3	4	5	6
$i$		$y_j$	$B$	$D$	$C$	$A$	$B$	$A$
0	$x_i$	0	0	0	0	0	0	0
1	$A$	0	↑ 0	↑ 0	↑ 0	↖ 1	← 1	↖ 1
2	$B$	0						
3	$C$	0						
4	$B$	0						
5	$D$	0						
6	$A$	0						
7	$B$	0						

2. Fill in the blanks in the following multiple LCS computation.

	$j$	0	1	2	3	4	5	6
$i$		$y_j$	$B$	$D$	$C$	$A$	$B$	$A$
0	$x_i$	0	0	0	0	0	0	0
1	$A$	0	←↑ 0	←↑ 0	←↑ 0	↖ 1	← 1	↖ 1
2	$B$	0						
3	$C$	0						
4	$B$	0						
5	$D$	0						
6	$A$	0						
7	$B$	0						

3. Fill in the blanks in the following pseudocode for LCS-LENGTH.

LCS-LENGTH (  $X, Y$  )

$m = X.length$

$n = Y.length$

let  $b[1 .. m, 1 .. n]$  and  $c[0 .. m, 0 .. n]$  be new tables

**for**  $i = 1$  **to**  $m$

$c[i, 0] = 0$

**for**  $j = 1$  **to**  $n$

$c[0, j] = 0$

**for**  $i = 1$  **to**  $m$

**for**  $j = 1$  **to**  $n$

**if**  $x_i == y_j$

$b[i, j] = "\nwarrow"$

**elseif**

$b[i, j] = "\uparrow"$

**else**

$b[i, j] = "\leftarrow"$

**return**  $c$  and  $b$

4. Fill in the blanks in the following pseudocode for PRINT-LCS.

PRINT-LCS (  $b, X, i, j$  )

**if**  $i == 0$  or  $j == 0$

**return**

**if**  $b[i, j] == "\nwarrow"$

print  $x_i$

**elseif**

PRINT-LCS (  $b, X, i - 1, j$  )

**else**