

LCS-LENGTH(x, y)

```
 $m \leftarrow \text{length}(x)$ 
 $n \leftarrow \text{length}(y)$ 
for  $i \leftarrow 1$  to  $m$ 
     $c[i, m+1] \leftarrow 0$ 
for  $j \leftarrow 1$  to  $n$ 
     $c[n+1, j] \leftarrow 0$ 
for  $i \leftarrow m$  down to 1
    for  $j \leftarrow n$  down to 1
        if  $x_i = y_j$ 
             $c[i, j] \leftarrow c[i+1, j+1] + 1$ 
             $b[i, j] \leftarrow \swarrow$ 
        else
            if  $c[i+1, j] \geq c[i, j+1]$ 
                 $c[i, j] \leftarrow c[i+1, j]$ 
                 $b[i, j] \leftarrow \downarrow$ 
            else
                 $c[i, j] \leftarrow c[i, j+1]$ 
                 $b[i, j] \leftarrow \rightarrow$ 
return  $b, c$ 
```

LCS-PRINT-WITHOUT-B(c, x)

```
 $i \leftarrow 1$ 
 $j \leftarrow 1$ 
while  $c[i, j] \neq 0$ 
    if  $c[i+1, j] = c[i, j]$ 
         $i \leftarrow i+1$ 
    else if  $c[i, j+1] = c[i, j]$ 
         $j \leftarrow j+1$ 
    else
        print  $x_i$ 
         $i \leftarrow i+1$ 
         $j \leftarrow j+1$ 
```