VII) Longest Common Subsequence

Ex, $w_1 = abcd$ → 2^4 subsequences

= ab, bd, $\overset{x}{ca}$, ae, ad, db, bd, acd, (bcd) abcd

$w_2 = bcd$ → 2^3 subsequences

= b, bc, bd, bcd, (bcd)

$X = ab\,a\,aba$
$Y = b\,ab\,b\,ab$

(i) [baba]

longest common
subsequence.

Length of the common
subsequence will be '4'.

(ii) [abab]

$$\text{if } (x[i] == y[j]) \,,\, c[i][j] = 1 + c[i-1][j-1]$$
$$\text{else} \quad c[i][j] = max\left(c[i][j-1], c[i-1][j]\right)$$