

*Given two sequences, print the longest subsequence present in both of them.

*Examples:

LCS for input Sequences "ABCDGH" and "AEDFHR" is "ADH" of length 3.

LCS for input Sequences "AGGTAB" and "GXTXAYB" is "GTAB" of length 4.

#We have discussed Longest Common Subsequence (LCS) problem in a previous post.

The function discussed there was mainly to find the length of LCS. To find length of LCS,

a 2D table `L[][]` was constructed. In this post, the function to construct and print LCS is discussed.

Following is detailed algorithm to print the LCS. It uses the same 2D table `L[][]`.

Construct `L[m+1][n+1]` using the steps discussed in previous post.

The value `L[m][n]` contains length of LCS.

Create a character array `lcs[]` of length equal to the length of lcs plus 1 (one extra to store `\0`).

Traverse the 2D array starting from `L[m][n]`.

Do following for every cell `L[i][j]` If characters (in X and Y) corresponding to `L[i][j]` are same (Or `X[i-1] == Y[j-1]`),

then include this character as part of LCS.

Else compare values of `L[i-1][j]` and `L[i][j-1]` and go in direction of greater value.