

SRIRAM S (12/08/2006) 2024-IT**S2****Started on** Wednesday, 5 November 2025, 4:09 AM**State** Finished**Completed on** Wednesday, 5 November 2025, 4:10 AM**Time taken** 1 min 36 secs**Marks** 1.00/1.00**Grade** **10.00** out of 10.00 (**100%**)

**Question 1** | Correct Mark 1.00 out of 1.00

Given two strings find the length of the common longest subsequence(need not be contiguous) between the two.

Example:

s1: ggtabe

s2: tgatasb

s1	a	g	<b>g</b>	t	a	b	
s2	<b>g</b>	x	<b>t</b>	x	a	y	b

**The length is 4**

Solving it using Dynamic Programming

For example:

Input	Result
aab	2
azb	

**Answer:** (penalty regime: 0 %)

```

1 #include <stdio.h>
2 #include <string.h>
3
4 // Function to find LCS length using Dynamic Programming
5 int lcs(char *s1, char *s2) {
6     int m = strlen(s1);
7     int n = strlen(s2);
8     int dp[m + 1][n + 1];
9
10    // Initialize the dp table
11    for (int i = 0; i <= m; i++) {
12        for (int j = 0; j <= n; j++) {
13            if (i == 0 || j == 0)
14                dp[i][j] = 0;
15            else if (s1[i - 1] == s2[j - 1])
16                dp[i][j] = dp[i - 1][j - 1] + 1;
17            else
18                dp[i][j] = (dp[i - 1][j] > dp[i][j - 1]) ? dp[i - 1][j] : dp[i][j - 1];
19        }
20    }
21
22    return dp[m][n];
23}
24
25 int main() {
26     char s1[100], s2[100];
27     scanf("%s", s1);
28     scanf("%s", s2);
29
30     int result = lcs(s1, s2);
31     printf("%d\n", result);
32
33     return 0;
34}
35

```

	Input	Expected	Got	
✓	aab azb	2	2	✓
✓	ABCD ABCD	4	4	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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