RAJALAKSHMI
ENGINEERING
COLLEGE

7 KARTHIK J 2024-IT K2

Started on	Wednesday, 8 October 2025, 1:48 PM
State	Finished
Completed on	Wednesday, 8 October 2025, 1:52 PM
Time taken	4 mins 26 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	**g**	**t**	**a**	**b**	
s2	**g**	x	**t**	x	**a**	y	**b**

The length is 4

Solveing it using Dynamic Programming

For example:

Input	Result
aab azb	2

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
#include <string.h>

#define MAX 1000

int max(int a, int b) {
    return (a > b) ? a : b;
}

int lcs(char *s1, char *s2) {
    int m = strlen(s1);
    int n = strlen(s2);
    int dp[MAX][MAX];
    for (int i = 0; i <= m; i++)
        for (int j = 0; j <= n; j++)
            dp[i][j] = 0;
    for (int i = 1; i <= m; i++) {
        for (int j = 1; j <= n; j++) {
            if (s1[i - 1] == s2[j - 1])
                dp[i][j] = dp[i - 1][j - 1] + 1;
            else
                dp[i][j] = max(dp[i - 1][j], dp[i][j - 1]);
        }
    }

    return dp[m][n];
}

int main() {
    char s1[MAX], s2[MAX];
    scanf("%s", s1);
    scanf("%s", s2);

    int result = lcs(s1, s2);
    printf("%d\n", result);
    return 0;
}

```

	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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