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Started on	Sunday, 10 November 2024, 7:13 PM
State	Finished
Completed on	Sunday, 10 November 2024, 7:24 PM
Time taken	11 mins 28 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 %)

```

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

```

```
35 | }
```

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

◀ 2-DP-Playing with chessboard

Jump to...

4-DP-Longest non-decreasing Subsequence ▶