Started on	Monday, 28 October 2024, 2:31 PM
State	Finished
Completed on	Monday, 28 October 2024, 2:40 PM
Time taken	9 mins 51 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>
int longestCommonSubsequence(char s1[], int m, char s2[], int n) {
    int dp[m + 1][n + 1];

    for (int i = 0; i <= m; i++) {
        for (int j = 0; j <= n; j++) {
            if (i == 0 || j == 0) {
                dp[i][j] = 0;
            } else if (s1[i - 1] == s2[j - 1]) {
                dp[i][j] = dp[i - 1][j - 1] + 1;
            } else {
                dp[i][j] = (dp[i - 1][j] > dp[i][j - 1]) ? dp[i - 1][j] : dp[i][j - 1];
            }
        }
    }

    return dp[m][n];
}

int stringLength(char str[]) {
    int length = 0;
    while (str[length] != '\0') {
        length++;
    }
    return length;
}
int main() {
    char s1[100], s2[100];
    scanf("%s", s1);
    scanf("%s", s2);
    int m = stringLength(s1);
    int n = stringLength(s2);
    printf("%d\n", longestCommonSubsequence(s1, m ,s2, n));
    return 0;
```

```
35 }
36
```

	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 ►