3-DP-Longest Common Subsequence

Started on	Wednesday, 8 October 2025, 9:20 AM
State	Finished
Completed on	Wednesday, 8 October 2025, 9:25 AM
Time taken	4 mins 50 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1 Correct Mark 1.00 out of 1.00 Flag question

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

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_LEN 1001

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

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

    int m = strlen(s1);
    int n = strlen(s2);

    int dp[MAX_LEN][MAX_LEN];

    for (int i = 0; i <= m; i++) {
        dp[i][0] = 0;
    }
    for (int j = 0; j <= n; j++) {
        dp[0][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] = 1 + dp[i - 1][j - 1];
            }
            else {
                dp[i][j] = max(dp[i - 1][j], dp[i][j - 1]);
            }
        }
    }

    printf("%d\n", dp[m][n]);

    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.

Finish review

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