Started on	Friday, 25 October 2024, 1:39 PM
State	Finished
Completed on	Friday, 25 October 2024, 1:53 PM
Time taken	13 mins 13 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>
int longest_sequence(char *s1,char *s2) {
    int m=strlen(s1),n=strlen(s2);
    int dp[m+1][n+1];
    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]=dp[i-1][j-1]+1;
            } else {
                if(dp[i-1][j]>dp[i][j-1]) {
                    dp[i][j]=dp[i-1][j];
                } else {
                    dp[i][j]=dp[i][j-1];
                }
            }
        }
    }
    return dp[m][n];
}
int main() {
    char s1[100],s2[100];
    scanf("%s %s",s1,s2);
    printf("%d\n",longest_sequence(s1,s2));
    return 0;
}

```

	Input	Expected	Got	
✔	aab azb	2	2	✔

	Input	Expected	Got	
✔	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 ►