RAJALAKSHMI ENGINEERING COLLEGE

Started on	Saturday, 25 October 2025, 10:19 AM
State	Finished
Completed on	Saturday, 25 October 2025, 10:22 AM
Time taken	2 mins 54 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 lcs_length(char s1[], char s2[]) {
  int m = strlen(s1);
  int n = strlen(s2);

  int dp[m + 1][n + 1];

  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] = (dp[i - 1][j] > dp[i][j - 1]) ? dp[i - 1][j] : dp[i][j - 1];
    }
  }

  return dp[m][n];
}

int main() {
  char s1[100], s2[100];
  scanf("%s", s1);
  scanf("%s", s2);

  int length = lcs_length(s1, s2);
  printf("%d\n", length);

  return 0;
}
```

```
36
```

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

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Back to Course