

CS23331-Design and Analysis of Algorithms-2023 Batch-CSE

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Started on	Tuesday, 29 October 2024, 2:04 PM
State	Finished
Completed on	Tuesday, 29 October 2024, 2:35 PM
Time taken	30 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

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

Solveing it using Dynamic Programming

For example:

Input	Result
aab	2
azb	

Answer: (penalty regime: 0 %)

```

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

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

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Subsequence ▶](#)