

S.No: 11	Exp. Name: <i>Program to compute Longest Common Subsequence of two given Sequences</i>	Date:
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Aim:
Program to compute Longest Common Subsequence of two given Sequences

Source Code:

largestSubSequence.c

```
#include<stdio.h>
#include<string.h>
int max(int a,int b){
    return a>b?a:b;
}
int LCS(char *str1,char *str2,int n1,int n2){
    int DP[n1+1][n2+1];
    int i,j;
    for(i=0;i<=n1;i++){
        for(j=0;j<=n2;j++){
            if(i==0 || j==0)
                DP[i][j]=0;
            else if(str1[i-1]==str2[j-1])
                DP[i][j]=DP[i-1][j-1]+1;
            else
                DP[i][j]=max(DP[i-1][j],DP[i][j-1]);
        }
    }
    return DP[n1][n2];
}

void main(){
    char str1[50],str2[50];
    printf("Enter a string1: ");
    scanf("%s",str1);
    printf("Enter a string2: ");
    scanf("%s",str2);
    int n1=strlen(str1);
    int n2=strlen(str2);
    printf("Length of LCS is %d\n",LCS(str1,str2,n1,n2));
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter a string1: adgfh
Enter a string2: sf
Length of LCS is 1

Test Case - 2
User Output
Enter a string1: aggtab
Enter a string2: gxtxayab

Test Case - 2
Length of LCS is 4