#include <bits/stdc++.h>

using namespace std;

int dp[1005][1005];

int LongetsCommonSubsequence(char A[], char B[], int i, int j, int m, int n)

{

    if (i == m || j == n)

        return 0;

    if (dp[i][j] != -1)

        return dp[i][j];

    int ans = LongetsCommonSubsequence(A, B, i + 1, j, m, n);

    ans = max(ans, LongetsCommonSubsequence(A, B, i, j + 1, m, n));

    ans = max(ans, (LongetsCommonSubsequence(A, B, i + 1, j + 1, m, n) + (A[i] == B[j])));

    return dp[i][j] = ans;

}

int main()

{

    string str1, str2;

    memset(dp, -1, sizeof(dp));

    cout << "Enter the first setring : ";

    getline(cin, str1);

    cout << "Enter the second setring : ";

    getline(cin, str2);

    int m = str1.length();

    int n = str2.length();

    char st1[m + 1];

    char st2[n + 1];

    strcpy(st1, str1.c\_str());

    strcpy(st2, str2.c\_str());

    cout << LongetsCommonSubsequence(st1, st2, 0, 0, m, n);

    return 0;

}

**Output :**

Enter the first string : abcdefghijklmnopqrstuvwxyz

Enter the second string : jay

Length of LCS : 2

Subsequence : jy