#include<stdio.h>

#include<string.h>

int max(int m ,int n) {

if (m>n)

return m;

else

return n;

}

int longestCommonSubsequece(char str1[],char str2[], int len1,int len2) {

int i,j;

int LCS[len1+1][len2+1];

for(i=0;i<=len1;i++)

LCS[i][0]=0;

for(j=0;j<=len2;j++)

LCS[0][j]=0;

for(i=1;i<=len1;i++) {

for(j=1;j<=len2;j++) {

if(str1[i-1]==str2[j-1]) {

LCS[i][j]=1+LCS[i-1][j-1];

}

else {

LCS[i][j]=max(LCS[i-1][j],LCS[i][j-1]);

}

}

}

printf("\nMatrix : \n");

for(i=0;i<=len1;i++) {

for(j=0;j<=len2;j++) {

printf("%d ",LCS[i][j]);

}

printf("\n");

}

printf("\n");

int index = LCS[len1][len2];

char string[index + 1];

string[index] = '\0';

i = len1, j = len2;

while (i > 0 && j > 0) {

if (str1[i - 1] == str2[j - 1]) {

string[index - 1] = str1[i - 1];

i--;

j--;

index--;

}

else if (LCS[i - 1][j] >= LCS[i][j - 1])

i--;

else

j--;

}

printf("\nString: %s \n", string);

return LCS[len1][len2];

}

int main() {

char a[20],b[20];

int len1,len2;

printf("\nEnter string 1 : ");

scanf("%s",a);

printf("\nEnter string 2 : ");

scanf("%s",b);

len1 = strlen(a);

len2 = strlen(b);

printf("Length = %d ",longestCommonSubsequece(a,b,len1,len2));

return 0;

}

