**INPUT:**

#include<stdio.h>

#include<string.h>

#include<stdlib.h>

int max(int x, int y)

{

int m;

m=(x>y)?x:y;

return m;

}

void lcs( char \*X, char \*Y, int m, int n )

{

int L[m+1][n+1],i,j;

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

{

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

{

if (i == 0 || j == 0)

L[i][j] = 0;

else if (X[i-1] == Y[j-1])

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

else

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

}

}

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

{

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

{

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

}

printf("\n");

}

int index = L[m][n];

int lenght = L[m][n];

char lcs[index+1];

lcs[index] = '\0';

char lcsfinal[index+1];

lcsfinal[index] = '\0';

printf("\nSubstrings taken into consideration = ");

int z=0;

i = m, j = n;

while(L[m][n]!=1)

{

z=z+1;

while (i > 0 && j > 0)

{

if (X[i-1] == Y[j-1])

{

lcs[index-1] = X[i-1];

i--; j--; index--;

}

else if (L[i-1][j] > L[i][j-1])

i--;

else

j--;

}

if(z==1)

strcpy(lcsfinal,lcs);

printf("\n%s",lcs);

strcpy(lcs, "");

m=m-1;

while(L[m][n]==L[m+1][n])

{

m=m-1;

}

index=L[m][n];

lcs[index] = '\0';

i=m;

j=n;

}

printf("\n\nlcs lenght = %d\nlcs string = %s",lenght,lcsfinal);

}

int main()

{

char X[100],Y[100];

printf("Enter string 1=");

scanf("%s",&X);

printf("Enter string 2=");

scanf("%s",&Y);

int m = strlen(X);

int n = strlen(Y);

lcs(X, Y, m, n);

return 0;

}

**OUTPUT:**

