**PROGRAM:**

#include <stdio.h>

#include <string.h>

#define UP 0

#define LEFT 1

#define TOPLEFT 2

void printSubsequence(int, int);

int C[100][100], B[100][100];

char str1[100], str2[100];

int m, n;

int main() {

printf("Enter string 1 : ");

scanf("%s", str1);

printf("Enter string 2 : ");

scanf("%s", str2);

m = strlen(str1);

n = strlen(str2);

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

C[i][0] = 0;

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

C[0][j] = 0;

for(int i = 1; i <= m; i++) {

for(int j = 1; j <= n; j++) {

if(str1[i-1] == str2[j-1]) { //NOTE: i and j are 1-indexed, so we do i-1 and j-1

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

B[i][j] = TOPLEFT;

}

else {

if(C[i-1][j] >= C[i][j-1]) {

C[i][j] = C[i-1][j];

B[i][j] = UP;

}

else {

C[i][j] = C[i][j-1];

B[i][j] = LEFT;

}

}

}

}

printf("\nTotal length of characters: %d\n",C[m][n]);

printf("The longest common subsequence is : ");

printSubsequence(m, n);

return 0;

}

void printSubsequence(int i, int j) {

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

return;

if(B[i][j] == LEFT)

printSubsequence(i, j-1);

else if(B[i][j] == UP)

printSubsequence(i-1, j);

else {

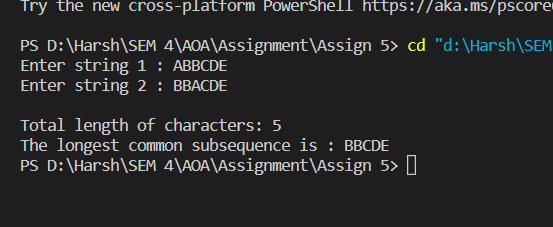
printSubsequence(i-1, j-1);

printf("%c", str1[i-1]);

}

}

**OUTPUT:**

****