LCS 01:

```c
#include <stdio.h>

#include <string.h>


inti, j, m, n, LCS_t[50][50];

char S1[50] = "abcbdab", S2[50] = "bdcaba", b[50][50];


 void lcsAlgo(){

 m = strlen(S1);

 n = strlen(S2);

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

LCS_t[i][0] = 0;

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

LCS_t[0][i] = 0;


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

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

    if (S1[i - 1] == S2[j - 1]) {

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

    } else if (LCS_t[i - 1][j] >= LCS_t[i][j - 1]) {

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

    } else {

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

    }

 }
```

```c
int index = LCS_t[m][n];
  char lcsAlgo[index + 1];
lcsAlgo[index] = '\0';

inti = m, j = n;
  while (i> 0 && j > 0) {
    if (S1[i - 1] == S2[j - 1]) {
lcsAlgo[index - 1] = S1[i - 1];
i--;
    j--;
    index--;
  }
  else if (LCS_t[i - 1][j] >LCS_t[i][j - 1])
i--;
  else
    j--;
 }
printf("S1 : %s \nS2 : %s \n", S1, S2);
printf("DNA Most Match: %s", lcsAlgo);
}
intmain() {
lcsAlgo();
}
```

LCS 02:

```c
#include <stdio.h>
#include <string.h>

inti, j, m, n, LCS_t[50][50];
```

```c
char S1[50] = "catcat", S2[50] = "tgrcat", b[50][50];


 void lcsAlgo(){
 m = strlen(S1);
 n = strlen(S2);
 for (i = 0; i<= m; i++)
LCS_t[i][0] = 0;
 for (i = 0; i<= n; i++)
LCS_t[0][i] = 0;


 for (i = 1; i<= m; i++)
 for (j = 1; j <= n; j++) {
    if (S1[i - 1] == S2[j - 1]) {
LCS_t[i][j] = LCS_t[i - 1][j - 1] + 1;
    } else if (LCS_t[i - 1][j] >= LCS_t[i][j - 1]) {
LCS_t[i][j] = LCS_t[i - 1][j];
    } else {
LCS_t[i][j] = LCS_t[i][j - 1];
    }
    }
int index = LCS_t[m][n];
  char lcsAlgo[index + 1];
lcsAlgo[index] = '\0';

inti = m, j = n;
  while (i> 0 && j > 0) {
   if (S1[i - 1] == S2[j - 1]) {
lcsAlgo[index - 1] = S1[i - 1];
i--;
```

```c
            j--;
            index--;
        }
        else if (LCS_t[i - 1][j] >LCS_t[i][j - 1])
i--;
        else
            j--;
    }
printf("S1 : %s \nS2 : %s \n", S1, S2);
printf("DNA Most Match: %s", lcsAlgo);
}
intmain() {
lcsAlgo();
}
```