

lcs.cpp

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#include<bits/stdc++.h>

int max(int a, int b);

/* Returns length of LCS for X[0..m-1], Y[0..n-1] */
int lcs( char *X, char *Y, int m, int n ) {
    if (m == 0 || n == 0)
        return 0;
    if (X[m-1] == Y[n-1])
        return 1 + lcs(X, Y, m-1, n-1);
    else
        return max(lcs(X, Y, m, n-1), lcs(X, Y, m-1, n));
}

/* Utility function to get max of 2 integers */
int max(int a, int b) {
    return (a > b)? a : b;
}

/* Driver program to test above function */
int main() {
    char X[] = "AGGTAB";
    char Y[] = "GTXAYB";

    int m = strlen(X);
    int n = strlen(Y);

    printf("Length of LCS is %dn", lcs( X, Y, m, n ) );

    return 0;
}
```