

Experiment 8

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#include <stdio.h>
#include <string.h> // For strlen()
#define MAX_LENGTH 100 // Maximum length of input strings

int max(int a, int b);
int lcs(char *A, char *B, int i, int j);

int main() {
    char A[MAX_LENGTH];
    char B[MAX_LENGTH];

    // Input string A
    printf("Enter the first string: ");
    scanf("%s", A);

    // Input string B
    printf("Enter the second string: ");
    scanf("%s", B);

    int i = strlen(A);
    int j = strlen(B);

    printf("Length of LCS is %d\n", lcs(A, B, i, j));
    return 0;
}

int max(int a, int b) {
    return (a > b) ? a : b;
}

int lcs(char *A, char *B, int i, int j) {
    if (i == 0 || j == 0)
        return 0;
    if (A[i - 1] == B[j - 1])
        return 1 + lcs(A, B, i - 1, j - 1);
    else
        return max(lcs(A, B, i, j - 1), lcs(A, B, i - 1, j));
}
```

```
(base) computer@computer:~/Desktop/karan$ gcc -o exp8 exp8.c
(base) computer@computer:~/Desktop/karan$ ./exp8
Enter the first string: longest
Enter the second string: stone
Length of LCS is 3
```