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//Write a program to find Longest Common Subsequence.

```cpp
#include<iostream>
#include<conio.h>
#include<string.h>
#include<stdio.h>
using namespace std;
class Longestcommon
{
public:
    char* a1, * b1, a[10], b[10];
    int c[10][10];
    void getdata();
    void LCS();
    void putdata(int, int);
    void sequence(int, int);
};
void Longestcommon::getdata()
{
    cout << "Enter first string:";
    cin >> a;
    cout << "Enter second string:";
    cin >> b;

};
void Longestcommon :: LCS()
{
    int i, j, m, n;
    m = strlen(a);
    n = strlen(b);
    for (i = 0; i <= m; i++)
        c[i][0] = 0;
    for (j = 1; i <= n; j++)
        c[0][j] = 0;
    for (i = 1; i <= m; i++)
        for (j = 1; j <= n; j++)
            if (a[i - 1] == b[j - 1])
                c[i][j] = 1 + (c[i - 1][j - 1]);
            else
                c[i][j] = (c[i - 1][i] > c[i][j - 1] ? c[i - 1][j] : c[i][j - 1]);
    putdata(m, n);
    cout << "\n";
    sequence(m, n);
}
```

```cpp
void Longestcommon :: putdata(int m, int n)
{
    int i, j;
    cout << "the resultant matrix....\n";
    cout << "\t";
    for (i = 0; i <= m; i++)
    {
        cout << "\t" << a[i];
    }
    cout << "\n";
    for (i = 0; i <= m; i++)
    {
        if (i > 0)
            cout << "\n" << b[i - 1];
        for (j = 0; j <= n; j++);
        {
            cout << "\t" << c[i][j];
        }
        cout << "\n";
    }
    cout << "Longest common subsequence....\n";
}
void Longestcommon :: sequence(int m, int n)
{
    if (c[m][n] == 0)
        return;
    if (c[m][n] == c[m - 1][n])
        sequence(m - 1, n);
    else  if (c[m][n] == c[m][n - 1])
        sequence(m, n - 1);
    else
    {
        sequence(m - 1, n - 1);
        cout << "\t" << a[m - 1];
    }
}
int main()
{
    Longestcommon l;
    l.getdata();
    l.LCS();
    return 0;
}
```

Output:

Enter first string:ABAB

Enter second string:AABA

the resultant matrix....

	A	B	A	B
-1				
A	1877944186			
A	2			
B	1975679874			
A	0			

Longest common subsequence....

A   B   A