Longest Common Subsequence

```cpp
#include <iostream>
#include <algorithm>
#include <vector>
#define LL long long int
using namespace std;

typedef vector<long long> vi;
typedef vector< vector<long long> > vii;

template <class T> void print(vector< vector<T> >& M, string& s1, string& s2) {...}

LL lcs(string& s1, string& s2)
{
    vii V(s1.size()+1, vi(s2.size()+1, 0));
    vector< vector<char> > P(s1.size(), vector<char>(s2.size(),'.'));
    LL ix=0, jx=0;

    for(LL i=1; i<=s1.size(); i++) {
        ix=i-1;
        for(LL j=1; j<=s2.size(); j++) {
            jx=j-1;
            if(s1[ix]==s2[jx]) {
                V[i][j] = V[i-1][j-1] + 1;
                P[ix][jx] = '\\';
            } else {
                V[i][j] = max(V[i-1][j], V[i][j-1]);
                if(V[i][j] == V[i-1][j]) {
                    P[ix][jx] = '|';
                } else if(V[i][j] == V[i][j-1]) {
                    P[ix][jx] = '-';
                }
            }
        }
    }
    print(P, s1, s2);
    cout<<endl<<endl;
    return V[s1.size()][s2.size()];
}

int main()
{
    string a="ABPQRCDE", b="APBQRSE";
    cout<<"LCS is "<<lcs(a,b)<<endl<<endl;
    return 0;
```

Output:


```
D:\Code\ada\lcs\bin\Debug\lcs.exe

          A         P         B         Q         R         S         E
A         \         —         —         —         —         —         —
B         ¦         ¦         \         —         —         ¦         ¦
P         ¦         \         ¦         —         —         ¦         —
Q         ¦         ¦         ¦         \         —         ¦         ¦
R         ¦         ¦         ¦         ¦         \         —         —
C         ¦         ¦         ¦         ¦         ¦         ¦         ¦
D         ¦         ¦         ¦         ¦         ¦         ¦         ¦
E         ¦         ¦         ¦         ¦         ¦         ¦         \


LCS is 5


Process returned 0 (0x0)    execution time : 0.014 s
Press any key to continue.
```