```cpp
#include <iostream.h>
#include <iomanip.h>

//****************************************************************
// Scope Rules of C++
// The purpose of this program is to demonstrate the implications of the scope rules of C++.
// Programmer: Dr. John G. Del Greco
// Comp 170 Spring Semester 1998
// Section 611
// Last Modified: February 4, 1998
//****************************************************************

int i = 4, j = 7, k = 1, p = 13;  //global variables

void function(int i, int& j) {
    int i = -2, p = 23;  //local variables
    j = -7;
    k = 0;
    int n = 5;
    int q = 6;
    cout << "Calling function:  " << "i = " << i << "j = " << j << "n = " << n << "p = " << p << "q = " << q << endl;
}

void main () {
    int i = 3, j = 8;
    cout << "Processing in main:  " << "i = " << i << "j = " << j << endl;
    function(i, j);
    cout << "Processing in main again:  " << "i = " << i << "j = " << j << "k = " << k << "q = " << q << endl;
}
```