Computer Systems: HW 2

Program 1 will print 20, because the value of the variable x is changed only in the scope of the function call of foo, not affecting its value in the global environment.

Program 2 will print 121, because y is passed to the function foo by reference, so the function can change the value of the variable in the global environment.

Program 3 will print the following:

x = 10.25

\*ptr = 10.254575

x= 20.254575

\*ptr = 20.254575

x = 21.2546

\*ptr = 21.2546

Since the values are changed using the pointer pointing to x, the value of x matches the value attained when evaluating ptr.

Program 4 will print 0 125, since in the body of the foo function, the value of the pointer is changed to point to j rather than i.

Program 5 will print

(Computer Systems, CSCI 2271)

(CSCI 2271, Computer Systems).

The first print statement is the initial assignment of the printers.

When the swap function is called, the pointers are copied in the function call, and while their value is swapped, the original pointers in the global environment are not affected. To change their value, they would also have to be passed by reference.

In the main function, the values are swapped, using pointers in the normal way.