

PRACTICE 7.2:

Explain the difference amongst the following 3 functions:
<pre>void swap1(int x, int y) { int temp = x; x = y; y = temp; }</pre>
<pre>void swap2(int &x, int &y) { int temp = x; x = y; y = temp; }</pre>
<pre>void swap3(int *x, int *y) { int temp = *x; *x = *y; *y = temp; }</pre>

Explain the difference:

Swap1: `int x` and `int y` are parameters passed by value, meaning `x` and `y` are just copies of the passed parameters, so when swapping the values of `x` and `y` in the *swap1* function, the values of the two passed variables will not change.

Swap2: `int &x`, `int &y` are parameters passed by reference, meaning that after swapping the 2 values `x`, `y` in the *swap2* function, the values of the 2 passed variables will change.

Swap3: `int *x`, `int *y` passed in are 2 pointers storing the addresses of 2 variables, so when swapping the values of 2 pointers, the values of the 2 variables that the 2 pointers point to will be changed.