Homework 6

1. **(Basic Pointers and Pointer Arithmetic)** Write a program that will do the following:
   1. Create two integer variables x and y, and an integer array z[5]
   2. Set the variable x equal to 5, and the variable y equal to 10
   3. Save the following values in the array: 1, 2, 4, 8, 16
   4. Print to screen the ***address*** of each of the variables, x, y, and the start of the array z
   5. Create a pointer named testPtr and point it to the variable x
   6. Print to screen the ***value*** stored in variable x using only your pointer testPtr
   7. Add six to the value stored in x using only your pointer testPtr
   8. Print to screen the value stored in variable x using only your pointer testPtr
   9. Test to see if the value stored in variable x is larger than y, using only the variable y and the testPtr. If it is, print to screen "x > y", otherwise print "y < x"
   10. Now, change testPtr to Point to the first entry of the array z
   11. Using only testPtr, use a counter and for loop to print all the value in the array (do not use the array).
2. **(Pointers and Functions)** Write a void function called swap that accepts as inputs two integer variables and swaps their values. For example, if I had a variable a = 5 and b = 10, after calling swap with variables a and b; a = 10 and b = 5. Note this will require writing the function such that it uses pointers since we want to change the original variables and return nothing (void).