CS1050 – Prelab 5
Spring 2020

Concepts to Practice
- Arrays
- Passing arrays to functions

Description
For the prelab assignment, you will declare an array of integers in your main() function that has 256 elements. You will not need all 256 elements, but declaring this extra space means that you can use this array to hold a variety of data **as long as** you use no more than 256 elements.

You should write a function to initialize an array and another function to print the contents of an array. You will use these functions by calling them from main(). You are NOT allowed to do anything in main() except:

- Declare variables
- Print header information (like "First Array:").
- Call functions

You should initialize the one and only array that you declare (in main()) by calling your InitializeArray() function and print it by calling your PrintArray() function:

- First, initialize the array to hold values 2, 4, 6, 8, …, 20 (inclusive).
- Print out the array
- Second, initialize the array to hold values 1, 4, 7, 10, ..., 97 (inclusive).
- Print out the array

Prototypes for the functions you should write
You may write any functions you wish to implement this program, in **addition** to the following functions. However, you **must** implement the following functions:

- **void PrintArray(int array[], int size);**
  This function should print all of the elements of the passed-in array. The second parameter, size, tells how many valid elements there are in the array.
- **int InitializeArray(int array[], int begin, int end, int increment);**
  This function should initialize each element of the array with values starting at "begin" and ending with "end", going up or down by "increment" steps. You will need to do this by looping through the elements of the array. This function should return a count of how many elements were initialized.
- **int main(void)** – Of course, you need to write a main() 😊.

Hint
Remember that arrays are passed to functions sort of similar to "pass by reference". So, if I pass an array called "myarray" to a function by using its name, this is the same as passing the address of the first element of that array (&myarray[0]). This is important, because it means that a function receiving an array as an argument can make changes to the values contained in that array.

```
jimr@JimRHadesCanyon:~/CS1050/SP2020/labs/lab5$ compile prelab5.c
jimr@JimRHadesCanyon:~/CS1050/SP2020/labs/lab5$ ./a.out
First Array:
        Element 0 = 2
        Element 1 = 4
        Element 2 = 6
        Element 3 = 8
        Element 4 = 10
        Element 5 = 12
        Element 6 = 14
        Element 7 = 16
        Element 8 = 18
        Element 9 = 20

Second Array:
        Element 0 = 1
        Element 1 = 4
        Element 2 = 7
        Element 3 = 10
        Element 4 = 13
        Element 5 = 16
        Element 6 = 19
        Element 7 = 22
        Element 8 = 25
        Element 9 = 28
        Element 10 = 31
        Element 11 = 34
        Element 12 = 37
        Element 13 = 40
        Element 14 = 43
        Element 15 = 46
        Element 16 = 49
        Element 17 = 52
        Element 18 = 55
        Element 19 = 58
        Element 20 = 61
        Element 21 = 64
        Element 22 = 67
        Element 23 = 70
        Element 24 = 73
        Element 25 = 76
        Element 26 = 79
        Element 27 = 82
        Element 28 = 85
        Element 29 = 88
        Element 30 = 91
        Element 31 = 94
        Element 32 = 97
```