Laboratory Assignment #3 —
Working with Arrays
Due: at 5:00 pm on 4/6

This assignment is adapted from Lab #3 of Professor Hamel's CS 2301 course

Outcomes

After successfully completing this assignment, you should be able to:

° Read values from the terminal to an array
° Pass an array to a function
° Read values from a data file to an array

Part 1:

Write a program that asks the user to enter an integer. The program should then read in n integers and save them in an array. The program should then print the array to the screen.

Compile and run your program. Your output might look like the following (user input is highlighted):

```
How big is your array?
5
Please enter your values:
1 7 9 8 11
The array is 1 7 9 8 11
```

Part 2:

Add a function called **largestItem** that returns the largest number stored in the array. Be sure to pass 2 parameters: the array and its size.

(Hint: start by assuming that the first item in the array is the largest one. Then step through the array elements one at a time, comparing each element with the largest element encountered so far, and updating the largest element seen so far if necessary.)

Compile and run your program. Your new output should look like the following:

```
How big is your array?
5
Please enter your values:
1 7 9 8 11
The array is 1 7 9 8 11
The largest value is 11
```

Save this program as largest_value.c

Part 3:

Create a new program that reads values from data.txt into an array. Prompt the user for the number of values in data.txt, then read the values from data.txt into the array. Use the **largestItem** function from Part 2 to determine the largest value in the file.

Compile and run your program. The output should look as follows:

```
How many values?
```
`10`
```
The largest value is 123
```

Save this program as largest_in_file.c

Getting credit for this Lab

To earn credit for this lab, submit your two programs, `largest_value.c` and `largest_in_file.c` to Canvas under Lab 3