Lab #7: Arrays and Functions

Getting started

Download lab07 materials from D2L (including this instruction and two starter codes)
Enter Mimir IDE
Change into the cse220 directory
Create a new directory called lab07
Change into the new directory
Uncompress and upload two starter codes to Mimir IDE (do not upload the whole zip file), save them in /home/(your_username)/cse220/lab07/
Implement the program below in your lab07 directory

Program 1

Asks the user to enter 10 integers and stores them in an array (Hint: array, scanf).
Ask the user to enter two indexes for the array, **start_index** and **end_index** (Hint: scanf).

Write a function (named **findSmallest.c**), which takes as input **the array**, **start_index** and **end_index,** to return:

(1) The smallest element between the **start_index** and **end_index** of the array;
(2) The index of the smallest element in the array. (Hint: **for** loop starting from **start_index** and ending at **end_index**)

Example input/output:

```
user@mimir: ~/cse220/lab07 > ./findLargest
Please enter the starter_index:
2
Please enter the end_index:
5
Please enter the array of length 10:
1
2
3
4
6
7
8
9
5
10
The smallest element = 3
The index of the smallest element = 2
```

Program 2

Write a program (**sort.c**) that asks the user to enter 10 integers and stores them in an array.
Your program need to sort the array in increasing order following the steps below:

- Sort the array in decreasing order: (assume that the last index of the array is LAST)
    - Find the smallest element of the array (use the function written in Program 1)

    - Swap the smallest element with the element at position 0
    - Find the smallest element between position 1 and LAST (use the function written in Program 1)
    - Swap the smallest element with the element at position 1
    - Find the smallest element between position 2 and LAST (use the function written in Program 1)
    - Swap the smallest element with the element at position 2
    - Repeat until all elements are sorted
- Print the array after sorting

Example input/output:

```
user@mimir: ~/cse220/lab07 > ./sort
Please enter the array of length 10:
2
1
5
8
3
9
10
4
6
7
Sort the array in increasing order: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
```