# SENG1000 – C/C++ PROGRAMMING

FOCUSED ASSIGNMENT 4 - INTRO TO ARRAYS

## OVERVIEW

Write a program that gets integers from the user and determines which is the lowest.

## GENERAL COURSE OBJECTIVES ADDRESSED IN THIS ASSIGNMENT

- Declare and use arrays.
- Use input and output functions.
- Use if statements and/or if/else statements.
- Problem solving.

## ACADEMIC INTEGRITY AND LATE PENALTIES

- Link to Academic Integrity Information
- Link to Late Policy

## EVALUATION

- The evaluation of this assignment will be done as detailed in the Marking lecture from Week 2.

## PREPARATION

- View Week 3 and 5 videos.

## REQUIREMENTS

### ARRAY DECLARATION:

- Declare an array that can hold exactly 10 ints. Initialize the array appropriately.

### USER INPUT:

- Use either the cin operator or the getNum() function from a previous assignment to obtain user input.
- Prompt the user before getting input.  It is adequate to prompt them only once if you tell them that they need to enter 10 numbers.
- Ten numbers are obtained.  This is done by using a loop in main().
- Get only one number per input line (i.e. they must press ENTER after each number).

### LOWEST VALUE:

- Within the input loop, keep track of which element has the lowest value.
    - Do not create a separate loop that determines the lowest value.
- After the input loop is done, display the minimum element's value and index in this exact format: "The lowest value is <someValue> at index <someIndex>".  An example would be "The lowest value is 1 at index 3".

### COMMENTING AND INDENTATION:
- This requirement is the same as in Focused Assignment 3.

### OTHER REQUIREMENTS:

- All variables must be declared within functions (i.e. it must not use global variables (covered later in the Scope and Style lecture)).
- Appropriate programming style as discussed in lecture and in the Course Notes must be used.
- **Do not have any input or output except as required by this assignment.**
- It is assumed that you will adhere to all course requirements detailed in the Course Notes readings so far in the course.  **This requirement holds for all subsequent assignments.**
- Do not clear the screen (this requirement is true for all assignments).

### CHECKLIST REQUIREMENTS
- Create a requirements checklist. This should contain the specific requirements from this assignment as well as any relevant requirements that have been covered in lecture or that are found in the SET Coding Standards or SET Submission Standards. Do it in whatever form you wish. Hand in your completed checklist in PDF form as checklist.pdf. Not having this checklist will result in a cap of 80 on your mark.

### FILE NAMING REQUIREMENTS

- You must call your source file f4.cpp.
- You must call your checklist checklist.pdf.

### SUBMISSION REQUIREMENTS

- Do not hand in any other source files besides those mentioned in the File Naming Requirements.
- Follow the instructions in the SET Submission Standards and the lecture on Submitting Assignments to submit your program.  Submit both files to the correct Assignment folder.

- Once you have submitted your files, make sure that you've received the eConestoga e-mail confirming your submission. Do not submit that e-mail (simply keep it for your own records until you get your mark).

- You can assume that the user will always enter valid integers.
- You can assume that all numbers will be different (i.e. you don't have to worry about having two or more equal minimum values).
- There is one important part to this assignment that you have not explicitly been taught. It is your job to figure out what it is and how to solve the problem. There are several valid ways to solve this problem. Please don't ask other students for help - try to solve this on your own.