DUE DATE: **By the deadline specified on Canvas**

CSE-443/543: High Performance Computing

Exercise #2

Max Points: 20

You should save/rename this document using the naming convention MUid.docx (example: `raodm.docx`).

Objective: The objective of this exercise is to ramp up on C++ programming skills by working collaboratively to solve an "interview" style problem

Fill in answers to all of the questions. For some of the questions you can simply copy-paste appropriate text from the Terminal window into this document. You may discuss the questions with your neighbor, TA, or your instructor.

Name:

Part #1: Practicing C++ programming skills

Background: Similar to coding in any other programming language, problem-solving plays the central role. Once a pseudocode or implementation has been developed, then translating it to C++ (or any other language) becomes much easier.

Exercise: Follow the instructions from your instructor during your class to complete this the lab exercise.

1. First review the video titled "Creating and using C++ project in VS-Code" in the Canvas page titled "OSC OnDemand & VS-Code demonstrations".
2. Log into OSC's OnDemand portal via https://ondemand.osc.edu/. Login with your OSC id and password that you setup.
3. Startup a VS-Code server and connect to VS-Code
4. Next, create a new VS-Code project in the following manner:
    a. Start a new terminal in VS-Code
    b. In the VS-Code terminal use the following commands:

```
$ # First change to your workspace directory
$ cd ~/cse443
$ # Use ls to check if workspace.code-workspace file is in pwd
$ cp -r /fs/ess/PMIU0184/cse443/templates/basic exercise2
$ # Copy the data file for this exercise
$ cp /fs/ess/PMIU0184/cse443/exercises/exercise2/values.txt exercise2
$ # Now add the newly created exercise2 directory to VS-Code
```

5. Now you are given a text file as a command-line argument. For example, say `values.txt`. (View the contents of this file in VS-Code). Develop a C++ to print the 2nd largest value in the text file specified as a command-line argument. The expected output is:

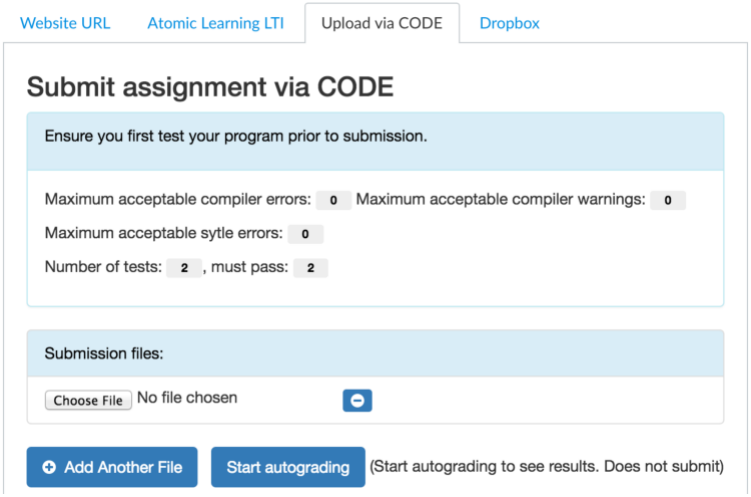
```
$ ./a.out values.txt
2nd max = 29586
```

Part #3: Submit to Canvas via CODE plug-in

Estimated time: 5 minutes

In this part of the exercise, you will be submitting the necessary files via the Canvas CODE plug-in.

1. If this is your first time using the CODE plug-in then review the submission process via the following brief video demonstration -- https://youtu.be/P2bWUt5KqbU.
2. Download your source file from VS-Code to your local computer.
3. Upload the files using the "`Upload via CODE`" tab shown in the screenshot below:



Ensure you actually **submit** the URL generated by CODE plug-in in the final step as shown in the Video demonstration and in the screenshot below: