

California State Polytechnic University, Pomona
Computer Science 3700-01, Spring 2024

Lab #2: February 22, 2024

You are to learn how to develop MPI program using C++ program language.

1. Log into your `hpc.cpp.edu` account using SSH or Putty
2. Use the `'mkdir'` command to create a directory `cs3700_lab02`
3. Use the `'cd'` command to change into the newly created directory `cs3700_lab02`
4. Compile and run the provided `sum.cpp` and `sum_cpp.sh`
COMMANDER> `sbatch compile_sum_cpp.sh`
COMMANDER> `sbatch run_sum_cpp.sh`
5. Modify the `sum.cpp` program to generate a random list of integers (see lecture notes) and find the min and max within the list. Let's call it `minmax.cpp` and create the SBATCH files, `compile_minmax_cpp.sh` and `run_minmax_cpp.sh`.

Lab Submission

1. Create a zip file of your `cs3700_lab02` directory and rename the zip file to `cs3700_lab02_your-bronconame.zip` (e.g. `cs3700_lab02_thuang.zip`)
2. Use secure copy (e.g., `scp` or WinSCP) to copy your zip to your local computer
3. Verify your zip file contains the right directory and all your lab files by unzipping it before submission.
4. **NOTE: It is important to name your directory and files exactly according to the instructions above, all in lowercase. Your zip file must unzip into a directory with your files inside. If I am unable to unzip or locate your files inside the unzipped directory, I won't grade your assignment.** For example, if your bronco-name is `thuang`, your zip file submission should look as follow.

```
$ ls cs3700_lab02_thuang.zip
cs3700_lab02_thuang.zip
```

```
$ unzip cs3700_lab02_thuang.zip
Archive:  cs3700_lab02_thuang.zip
  creating: cs3700_lab02/
  extracting: cs3700_lab02/sum.cpp
  extracting: cs3700_lab02/compile_sum_cpp.sh
  extracting: cs3700_lab02/run_sum_cpp.sh
  extracting: cs3700_lab02/COMPILE_SUM_CPP_16820.log
  extracting: cs3700_lab02/RUN_SUM_CPP_16821.log
  extracting: cs3700_lab02/minmax.cpp
  extracting: cs3700_lab02/compile_minmax_cpp.sh
  extracting: cs3700_lab02/run_minmax_cpp.sh
  extracting: cs3700_lab02/COMPILE_MINMAX_CPP_16822.log
  extracting: cs3700_lab02/RUN_SUM_MINMAX_16823.log
```

5. Submit your zip file by upload to Canvas.
 - a. Login to Canvas
 - b. Click `CS 3700.01->Assignments->Labs->Lab 02`
 - c. Attach the zip file and click the Submit button.