

ECE-231 Lab Assignment #1

Assigned Monday 2/12/24

Due: 11:59 pm Wednesday 2/21/24

Develop a C program that meets the following requirements:

1. Your main function should take an integer type input from the command line using `"scanf()"` in the range 0-9000
2. Store that integer input in an array named `"buffer[]"` of size 10
3. Repeat the above two steps till the buffer is full of ten integers. Make sure that your ten integers are different from each other.
4. Write a custom function that takes this buffer array as input. This function should record a timestamp using `"clock_gettime(CLOCK_MONOTONIC, ...)"`, and also calculate the mean value of the ten integers stored in the input buffer. This function should return the timestamp and the integer mean value
5. Take 2 rounds of repetitive timestamp and mean measurements using the steps above and print every calculated timestamp and mean to the terminal

Notes:

- This is an individual assignment: you must write your own code and not share it
- Read the instructions many times carefully to understand the program requirements and to produce the desired outcome
- You can either use the online C compiler or the compiler native to your system to do this assignment
- The lecture material supporting this assignment has already been covered in class
- The TAs will support you during lab hours

What to turn in:

- By the deadline, upload to Moodle your C source code file, and a video. The video should demonstrate that you have compiled and run the code, and shows the correct output of your code