CS 162 LAB #8 – Sorting

In order to get credit for the lab, you need to be checked off by the end of lab. Since this is the very last lab of the course, you are not able to make up points after 8/14/2020. For extenuating circumstances, contact your TAs and the instructor.

(10 pts) Step 1: Merge sort the array and check prime numbers

Create a program which will sort an array of integers in an ascending order using merge sort, and indicate whether each int element is prime.

No memory leaks are allowed.

Steps:

- Create a one-dimensional dynamic array of integers. Establish the length of the array based on user input.
- Error handle this value to make sure it is a valid number greater than or equal to zero and no larger than 20.
- Populated the array with random values between 1 and 50.
- Print the array.
- Create a copy of the array and use merge sort to sort it in an ascending order.
- Print the sorted array.
- Print out all prime numbers of the array.
- End the program and make sure all memory has been freed.

Make sure your program is decomposed into appropriate functions which could be reused on other data structures.

Show your completed work and answers to the instructors or TAs for credit. You will not get points if you do not get checked off!

Submit your work to TEACH for our records **(Note: you will not get points if you don't get checked off with your instructor or the TAs!!!)**

1. Create a **tar archive** that contains all files you've created in this lab:
2. Transfer the tar file from the ENGR server to your local laptop.
3. Go to TEACH.
4. In the menu on the right side, go to **Class Tools → Submit Assignment**.
5. Select **CS162 Lab8** from the list of assignments and click "**SUBMIT NOW**"
6. Select your files and click the Submit button.