CPSC 2310

Written Portion

Lab1 Assignment

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Due:** On Monday, January 18, 2021 at 11:59

This is a 3-part lab.

**PART 1:**

Written portion.

**Submission:** Written portion will be submitted through Canvas

You are to answer the following questions pertaining to the class and lab syllabi. Your answers must be in red. **For Part 1, if you do not have your answers in red you will receive a 0 on Part 1 of the lab.**

**Course Syllabus:**

1. In this course, the final grade will be based on a 10-point scale. Complete the following chart according to the Dr. Feaster’s grading criteria.

|  |  |
| --- | --- |
| Numerical grade | Letter grade |
| 89.5 |  |
| 69.9 |  |
| 95 |  |

1. True / False

If the class average on an exam is 65 and the highest grade in the class is 90, Dr. Feaster will apply a 5-to-10-point curve on the exam.

1. Suppose an exam grade, homework, programming assignment, or lab grade was returned to you and you found a possible mistake in the grading or points calculation. What is the procedure you need to take to get this corrected? What time frame should you do this by. Answer this for both the course and the lab.
2. Answer this based on the scenario of taking an exam.

The exam has begun and you are 15 minutes late. You start the exam but when the time is up you are not finished. What do you need to do?

1. What are the criteria to exempt the final exam in this class?
2. What is the consequence of cheating in class or lab?
3. If you are not sure if an action constitutes cheating what should you do?
4. What are office hours for the class?
5. Each day the class meets using a zoom session. Should you attend the zoom session or wait and watch it when the recording is posted? Explain your answer?
6. What are the tentative dates for exams?
7. How will the exams be administered?

1. What type of technology will you need to take an exam?
2. What do you need to do if you know in advance that you will miss an exam?
3. Can you work with another student on any homework, lab, exam, or other assignments?
4. What is the date and time of the final exam?
5. What is the last day to drop a class or withdraw from Clemson without final grades?

Lab:

1. What are the names of your TA’s and what section are you in?
2. Where can you find the lab assignments each week?
3. With respect to lab attendance: On Tuesdays, you must arrive to the zoom meeting on time and stay until ??? There should be two things you discuss here.
4. True/False

I can expect the TA’s to answer my email any day of the week at any time of the day.

1. What will your grade be if you do not attend the Tuesday lab section and you have not discussed your absence with the GTA?
2. True/False: Assume you are using handin to submit a lab assignment. It is 12:00 midnight and you are just getting around to turning in your lab assignment. The handin bucket is now closed, therefore, you will need to email the assignment to your TA.
3. Assuming handin is the mechanism for submitting a particular lab. Suppose you have all lab documents tar.gz’ed and ready to submit through handin. Describe what you should do after submitting your work through handin and the possible consequence if you do not.
4. Approximately how many labs will you complete this semester and how many will actually count toward your final grade.
5. What percent do labs count toward your final grade in CPSC 2310?
6. True/False: If you need to email a lab TA or myself you can use any email account to do so?
7. List one or more “C” concepts you would like to review this semester.

**PART 2:**

**Programming portion:**

**Overall Description:**

**You will find this part of the lab on Mimir. There is a link to Mimir on the Course Canvas page.**

For this assignment you are going to write a program that will read the content of a file and check that each opening bracket ‘{’ has a closing bracket ‘}’. Your program should also ensure the first bracket is an opening bracket ‘{’.  If it is not your program should print, to stdout, the following:

Found a ‘}’ closing bracket before an ‘{’opening bracket!

HINT:  If there are multiple ‘}’ before the first ‘{’ the program should print, to stdout, the above message once for each ‘}’ found before a ‘{’ is found.

Lastly, your program should print the following message indicating the number of unmatched opening brackets.

There were 2 unmatched opening brackets.

The number (2 in the above example) represents the number of unmatched opening brackets.

**Needed Files:**

I will provide the main.c and functions.h file.  You will create functions.c and implement the functions listed in functions.h

You should **not** change main.c. However, you will need to add content to functions.h.

**Add to functions.h**

You will need to add header guards to this file.  If you are not familiar with this ask one of the TA’s or come to my office hours on Wednesday and I will go over it with you.

You will need to add comments above each function in the **functions.h** file.  The comments must follow the following format:

Return: (if there is a return you are to explain what is being returned.  If no return then put void.)

Parameters: (list the type of parameters and a short description of what it will be used for in the function.)

Description: (You are to write a detailed description of the functions purpose and how it will accomplish its purpose. In other words, describe what it is doing.)

Failure to do appropriate comments will result in points being taken off.

Below is an example of a comment block.

/\* Parameters: img - image\_t pointer array holding the image data for  
 \*                   each of the input files  
 \* Return:     output - image\_t struct containing output image data  
 \* Description: This function averages every pixels rbg values from each of the   
 \* input images and puts those averages into a single output image  
 \*/

You are required to have this type of comment block before each function in your **functions.h** file.

Also, if you include comments in the body of the function implementation (and you should) they should be placed above the line of code not beside the code. (This is my personal preference. Once you get out of my class you can put these comments where ever you wish, but as long as you are in my class you will follow this format.)

Example:

Bad

if(something) //This is a comment

{

do something;

}

Good

//This is a comment

if(something)

{

do something;

}

**functions.c**

You will implement the functions from functions.h in the functions.c file.

Explanation of the functions.

1. checkFile: This function is responsible for checking to see if the file pointer is NULL.  If it is NULL you should print the following:

**File did not open!**

Then exit the program.

2. checkArguments: This function makes sure the user uses the appropriate number of command line arguments.  If not, the following message should print:

**Not enough command line arguments!!**

Then exit the program.

3. checkBraces:  This function is basically described above.

**PART 3:**

Below is a link to a google form you must complete. The answers from this form will be used in an assignment later in the semester.

<https://docs.google.com/forms/d/e/1FAIpQLSdKkczd6dmN3zBRYWL7JDlqZ9c2a37HMATCjDtYDWfCttdpjg/viewform?usp=pp_url>

**Grading:**

The programming part of the lab will count 60% of the overall grade for Lab 1. The question/answer part will count 38% and completing the google form is 2% of your overall grade for this lab.

80% of the programming portion of the grade will be functionality and the remaining 20% will include following directions, and commenting, etc.