Laboratory Session 5

1.1 Pre-Laboratory Report

Complete this report before coming to the Laboratory Session

Due Date Week of September 27th-October 1st, 2021 in lab section. Submit report electronically before start of Lab via Blackboard (check assignments folder)

Format Follow the Pre-Laboratory Report Template found on Blackboard

Content Sections to be included in the Pre-Laboratory Report include

1. **Header**
2. **Problem Statement**
3. **Research & Investigation**
4. **Alternative Solutions**
5. **Optimum Solution (with flowcharts)**
6. **Sources/Works Cited**
7. **Code Attachments**

Additional Task Answer the following questions and include them in the Pre-Laboratory Report

a. How does an ultrasonic sensor work?

b. In what applications are ultrasonic sensors commonly used?

c. What function is used in Arduino to process the reading of an ultrasonic sensor?

Additional Task Create flowcharts for the code you plan to generate in Laboratory 4

a. Make 1 flowchart for the sample code that you have been provided in the Research & Investigation section

b. Make 1 flowchart for your Optimal Solution

c. You can use PowerPoint, or any other software, to create your flowcharts

d. Your flowcharts should use simple English, not IC syntax

e. Include the flowchart in the Optimum Solution section of your Pre-Lab report

1.2 Post-Laboratory Report

Due Date Week of September 6th-September 10th, 2021 in lab section. Submit report electronically before start of Lab via Blackboard (check assignments folder)

Format Follow the Post-Laboratory Report Template found on Blackboard

Content Sections to be included in the Pre-Laboratory Report include

1. **Header**
2. **Problem Statement**
3. **Research & Investigation**
4. **Alternative Solutions**
5. **Optimum Solution**
6. **Analysis & Testing**
7. **Final Evaluation**
8. **Sources/Works Cited**
9. **Code Attachments (as needed)**