CPE301 – SPRING 2019

Design Assignment 3B

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Primary Github address: https://github.com/Ber-geb/effective-octo-reaction

Directory: effective-octo-reaction/DesignAssignments/DA3B/

Submit the following for all Labs:

1. In the document, for each task submit the modified or included code (only) with highlights and justifications of the modifications. Also, include the comments.
2. Use the previously create a Github repository with a random name (no CPE/301, Lastname, Firstname). Place all labs under the root folder ESD301/DA, sub-folder named LABXX, with one document and one video link file for each lab, place modified asm/c files named as LabXX-TYY.asm/c.
3. If multiple asm/c files or other libraries are used, create a folder LabXX-TYY and place these files inside the folder.
4. The folder should have a) Word document (see template), b) source code file(s) and other include files, c) text file with youtube video links (see template).

1. **COMPONENTS LIST AND CONNECTION BLOCK DIAGRAM w/ PINS**

List of Components used:

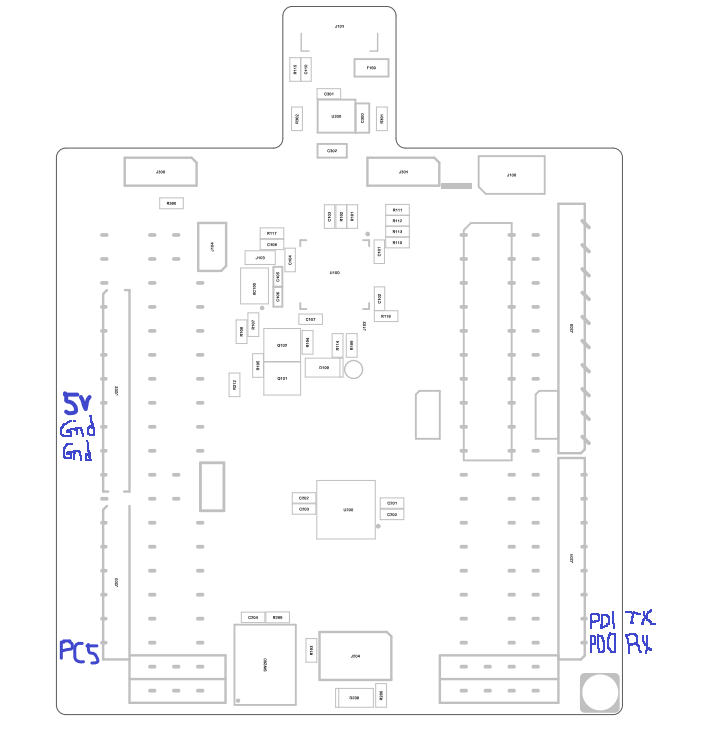
Breadboard

Atmega328P Xplained MiniBoard

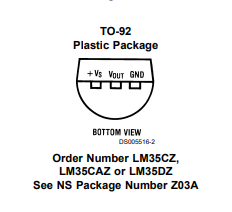
FTDI Basic

LM35

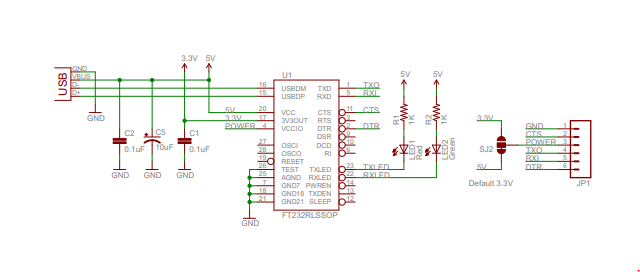
Block diagram with pins used in the Atmega328P



This shows the Xplained Mini Assembly Drawing. The areas of the drawing drawn in blue indicate which pins were used.

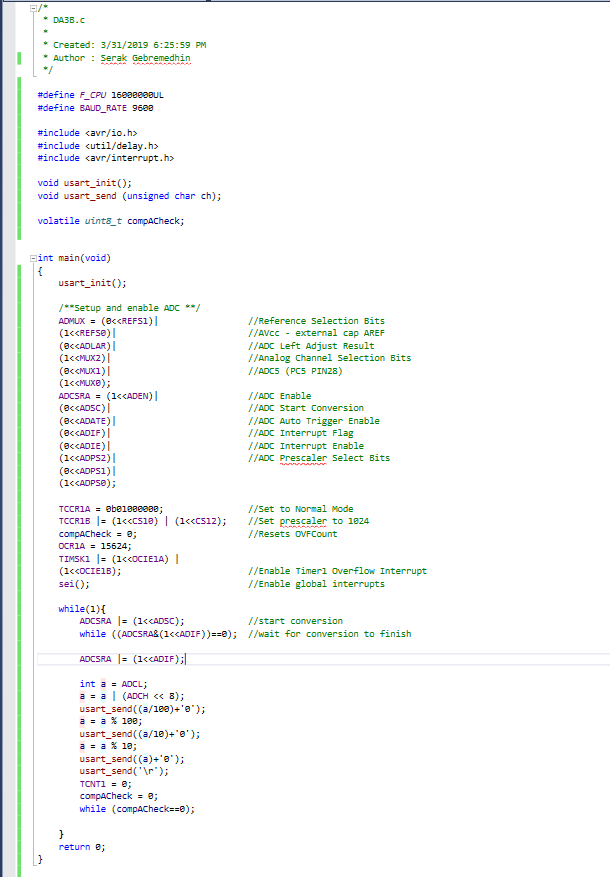


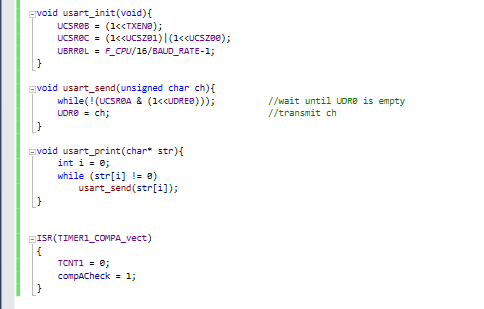
This is the LM35 schematic.



This is the LTDI basic schematic with a default 5V.

1. **INITIAL/MODIFIED/DEVELOPED CODE OF TASK 1/A**



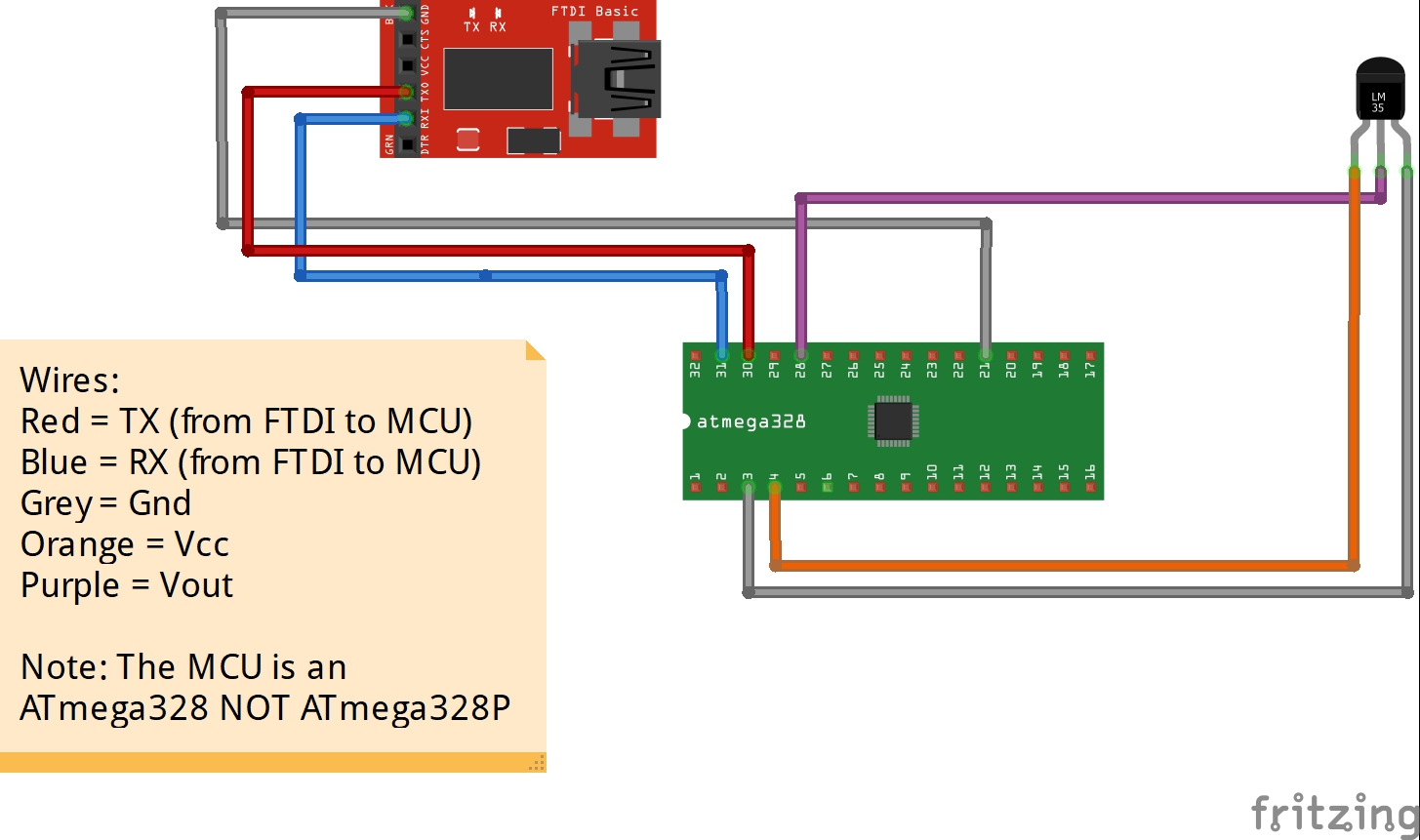


This is the source code for task 1 of **Design Assignment 3B**.

1. **DEVELOPED MODIFIED CODE OF TASK 2/A from TASK 1/A**

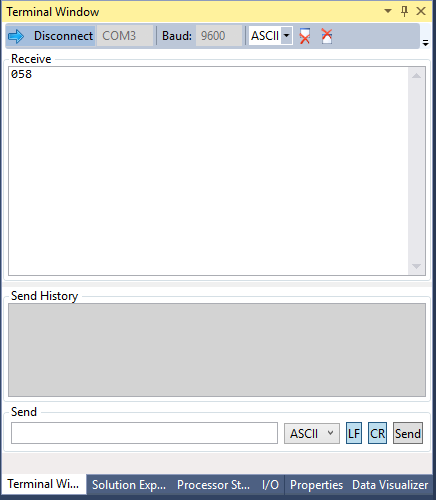
There is no modified code for this design assignment

1. **SCHEMATICS**

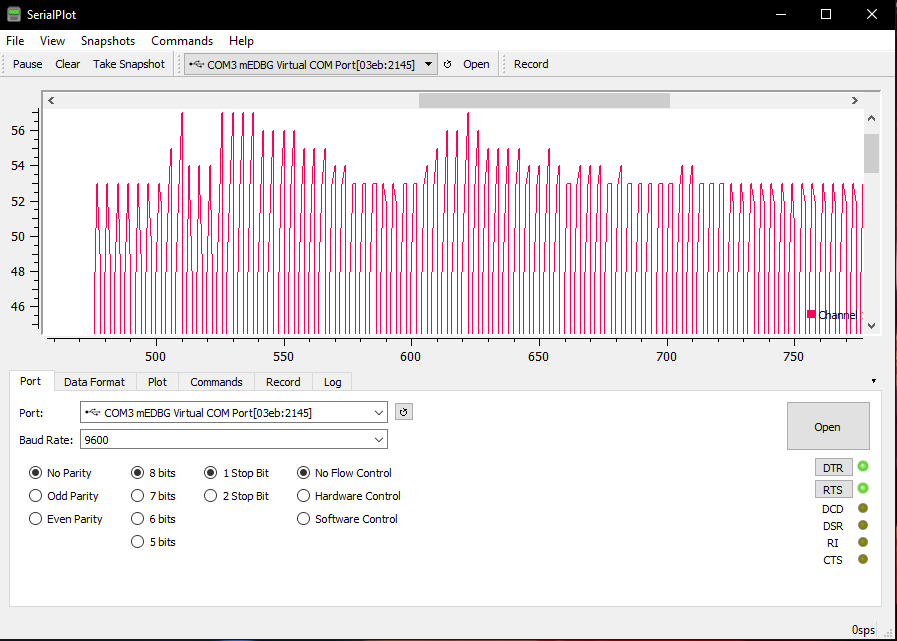


This is the schematic used for **Design Assignment 3B**.

1. **SCREENSHOTS OF EACH TASK OUTPUT (ATMEL STUDIO OUTPUT)**

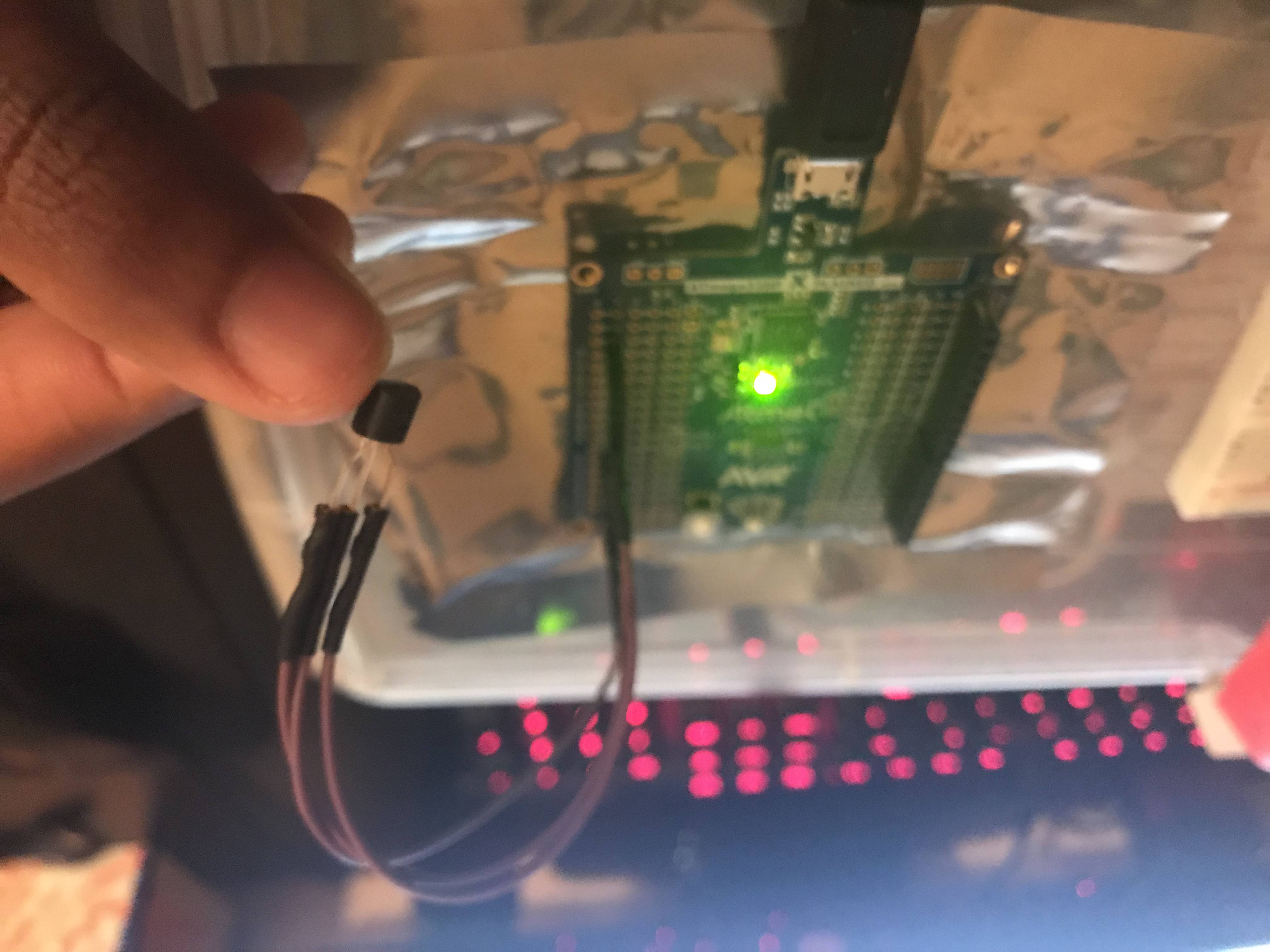


This shows the terminal while the program is running. It shows the temperature in Fahrenheit every second.



This shows the data visualizer for the COM port which will show the current temperature from the LM35 connected to the MCU.

1. **SCREENSHOT OF EACH DEMO (BOARD SETUP)**



This shows the board setup for this design assignment.

1. **VIDEO LINKS OF EACH DEMO**

<https://youtu.be/7FlXztq2FFc>

1. **GITHUB LINK OF THIS DA**

<https://github.com/Ber-geb/effective-octo-reaction>

**Student Academic Misconduct Policy**

<http://studentconduct.unlv.edu/misconduct/policy.html>

“This assignment submission is my own, original work”.

Serak Gebremedhin