**Documentation should be completed whenever workshops are held, design changes are made, or progress/set-backs are encountered. List the members involved, note the date, and circle the team this documentation specifically involves. Save a copy in this same folder with the date in the title EX: “8/5/19 Documentation” so that team leads can review.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Members:**   |  | | --- | | **Jordan Hybki** | |  | |  | |  | |  | | **Date:**  **10/15/19**   |  | | --- | |  | |

**Team (check circle):**

|  |  |  |
| --- | --- | --- |
| **Electrical:**   * **Hardware** * **Software** * **Actuation** | **Mechanical:** | **Biomedical:**   * **Ergonomics** * **Sensors** |

**Assignment/Task:**

Develop Arduino Script for the torsion sensor.

**Notes:**

Used interrupts in the setup function to check if the two digital outputs were increasing or decreasing in value. If increasing it would run a function to increment a counter. If decreasing it would run a function to creates the counter. Tried to write the program in such a way to make it able to indicate the angle of turning (+ for CW and – for CCW), but was unable to.

**Unresolved Issues:**

Since Output A would be ahead of phase of Output B by pi/2, output A would always receive the turn first. Assuming Output A and Output B start at zero. This makes programming direction difficult, as if you turn to the right you would get Output A =1 and Output B = 0. If you turn to the left you would get inverse output. The cycle would go in a loop from (0,0), (1,0), (1,1), (0,1) no matter which direction you turned. If you map Digital output and set the mode to increasing for Output A and decreasing for Output B it is possible to have a gradual increase and decrease (like cosine wave) from range around 4000 to – 4000, but still run into the issue of no matter which way is being turned, it would mimic the same loop.