**What’s Up**

**Lab 4**

**Section 8**

**Submitted By:**

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**Problem**

The purpose of this lab is to develop a program that reads the input data from the ps4 controller using ds4rd.exe. We need to show if the controller is facing which way and we need at least 3 functions of our own. We should also figure out how to use the triangle button to end the program.

**Analysis**

In this lab we had to write a program with 3 functions of our own. The data was received from the PS4 controllers and we had to utilize the data to show the orientation of the controller if it was not moving and to only not show the orientation if the controller was moving. We also had to play with the tolerance values to get the proper output.

**Design**

For this lab I used three functions which were the most important part for this lab. The first was the mag function which would give the magnitude of the acceleration. The second function was the close to tolerance function, which was used to find the perfect value to get the correct orientation. And the third function was the stop function which would end the program when the triangle button was pressed. The code I wrote scanned through the data and displayed the proper orientation of the controller with the 3 functions which used while loops and if and else if.

**Testing**

A lot of testing and trial and error was needed for this program. First I needed to figure out what tolerance value would give me the proper result. I also had to figure out a way to read the values to give the right orientation of the controller. I had to test the program a lot of times to get the correct position for the controller.

**Comments**

Working in this lab, I learned that I need to be very careful with my code as a single mistake would just render my program not working. I had to be very careful with the values I put in and especially in decimal as they made a huge difference in the output of my code.

**Questions**

**1. How did you approach the design?**