INTRODUCTION TO THE DS4 AND FUNCTIONS

LAB 03

SECTION 5

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**Problem 1**

Use the DualShock 4 controller and collect data as we move the controller around.

**Analysis**

The ds4rd.exe file is already included. We need to run that and give variations to the movement of the controller so that we get different values.

**Design**

* Run the command /ds4rd.exe -d 054c:05c4 -D DS4\_BT -t -g
* Place the DS4 flat and the rotate it each for 10 seconds.
* Hold the DS4 pointing upward and then turn it around.
* Choose a simple movement for the DS4(Sideways).

**Testing**

The first graph should have a bump in the middle and the second graph should be pointing downwards. Compare them with the results.

**Comments**

Make sure to use DS4\_BT if using Bluetooth and DS4\_USB if the controller is connected to the cable.

Screenshot 1(Compilation)

Text

Description automatically generated

Screenshot 2(Graph-FLAT)

Chart

Description automatically generated

Screenshot 3(Graph-FRONT)

Chart, bar chart

Description automatically generated

Screenshot 4(Graph-CUSTOM)

Chart

Description automatically generated

**Problem 2**

Run the ds4.exe again and convert milliseconds to seconds, acceleration and get the magnitude.

**Analysis**

The ds4rd.exe file is already included. We need to write function magnitude to convert milliseconds to second, modify acceleration to get values up to 4 digits of precession and make functions minutes, seconds, and milliseconds.

**Design**

* Run the command ./ds4rd.exe -d 054c:05c4 -D DS4\_BT -t -a | ./lab03-1
* Place the DS4 flat and do some movement to get values.
* Write function magnitude to convert milliseconds to seconds.
* Write functions minutes, seconds, and milliseconds to get subsequent values.

**Testing**

Calculate the magnitude manually and compare it with the answer you get. Check if function minutes, seconds, and milliseconds are working correctly by comparing them with the real values.

**Comments**

Make sure to prototype the functions beforehand and write their definition afterwards. Make sure to use DS4\_BT if using Bluetooth and DS4\_USB if the controller is connected to the cable.

Screenshot 1(Code-Part 1)

Graphical user interface, text, application, email

Description automatically generated

Screenshot 2(Code-Part 2)

Text

Description automatically generated

Screenshot 3(Output)

Text

Description automatically generated with medium confidence

**Problem 3**

Run the ds4.exe file and count the different types of directions provided to the joystick.

**Analysis**

The ds4rd.exe file is already included. We need to provide a logic so that the code counts the different number of times the joystick has been moved.

**Design**

* Run the command /ds4rd.exe -d 054c:05c4 -D DS4\_BT -b
* Move the joystick around to get different values.

**Testing**

Manually count the variations given to the joystick and compare that with the values we get.

**Comments**

Make sure to include fflush(stdout) statement in your code.

Screenshot 1(Code)

Text

Description automatically generated

Screenshot 2(Output)

Text

Description automatically generated