Fall Detection README

1. Install all of the libraries in the "libraries" folder.
2. Upload any of the .ino files into the Arduino using the USB/UART converter.
    a. *fall_detection_answer.ino* has the completed fall detection code for this assignment.
    b. The other *.ino* files are isolated parts that we created for measuring separate components of the IMU.
3. Connect the Bluetooth to the VCC/GND/TDX/RDX pins.
4. Connect the I2C portions of the IMU to the Arduino.
5. Connect the 3.7V battery.
6. Pair BT device with computer.
7. Open a serial connection monitoring program and find the COM port.
8. Hold the IMU device to your sternum and test it!
9. The various states and measurements will be displayed in columns on the serial connection.
    a. 1st column: acceleration norm from all axes
    b. 2nd: standing or down states from gyro measurements
    c. 3rd: fell_timer if activated
    d. 4th: help_timer if activated
    e. 5th: "help!!!" if it is a serious fall and the resident should be contacted to see if they're alright.
10. The device will be reset 10 seconds after the "help" state has been reached so the device can be further tested.
11. The fall_data file shows the test values and graphs we collected while Dylan fell multiple times.