**Format of the data:**

* The Arduino script for accelerometerAverageAllReading outputs a list containing 13 values. These values are the average of every 10 readings of all 13 of the values that an accelerometer transmits.
* These values include x, y, and z accelerations; the yaw, pitch, and roll; the x, y, and z euler’s; and the w, x, y, and z quaternions.
* The order of the values in the list that gets outputted is:

values[0] = averageQuaternionW

values[1] = averageQuaternionX

values[2] = averageQuaternionY

values[3] = averageQuaternionZ

values[4] = averageEulerX

values[5] = averageEulerY

values[6] =averageEulerZ

values[7] = averageYaw

values[8] = averagePitch

values[9] = averageRoll

values[10] = averageXWorld (x acceleration adjusted with gravity)

values[11] = averageYWorld (y acceleration adjusted with gravity)

values[12] = averageZWorld (z acceleration adjusted with gravity)

**Data processing:**

* For the x, y, and z acceleration values used in the list, we have factored in gravity and adjusted the values accordingly. (There is also some commented out code that finds the x, y, and z accelerations without factoring gravity in, and the average of every 10 readings of these values can also be outputted, if needed.)
* The yaw and roll values are capped to be between -180º and +180º (positive yaw means it is positioned right, and negative yaw means it is positioned negative) (positive roll means it is rotate clockwise, and negative means counterclockwise)
* The pitch values are capped to be between -90º and +90º (positive pitch is up, negative is down)
* The x, y, and z acceleration values are at least 0, they cannot be negative

**Timing of data being transmitted:**

* The baud rate is 9600, which has a speed of 960 bytes/second. It outputs data every 1.042 ms. Since we are only outputting the average of every 10 readings, this code outputs data every 10.42 ms.