

### **Ron's Broomstick**

*In this code, in setup function, inside for loop the raw values of gyro and acc is read through the connection with mpu and then we get sum of gyro values in x axis , in y axis and in z axis for 1000 times. After for loop, the average of sum in each axis is calculated to get offset val and then the loop timer is reset as micros().*

*In loop function , the raw values of acc and gyro is read each loop and the offset is subtracted from raw gyro values then the gyro and accelerometer angle is calculated and then accelerometer angles are calibrated. Then check if IMU is started or not through flag to correct the drift of one angle to the other and if it isn't started yet the gyro angles will be equal accelerometer angles and the flag of IMU is set true as it is started. Then pitch and roll angles are dampened and then there is if statement that check if pitch and roll angles exceeds 60 degree or not and if yes green led will blink .then we check on loop time through while loop as each loop time should be 4000micro second which is equal to 250 Hz which is important in angles calculations then the loop timer reset again for next loop check.*