// Basic demo for accelerometer readings from Adafruit MPU6050

#include <Adafruit\_MPU6050.h>

#include <Adafruit\_Sensor.h>

#include <Wire.h>

Adafruit\_MPU6050 mpu;

void setup(void) {

Serial.begin(115200);

while (!Serial)

delay(10); // will pause Zero, Leonardo, etc until serial console opens

Serial.println("Adafruit MPU6050 test!");

// Try to initialize!

if (!mpu.begin()) {

Serial.println("Failed to find MPU6050 chip");

while (1) {

delay(10);

}

}

Serial.println("MPU6050 Found!");

mpu.setAccelerometerRange(MPU6050\_RANGE\_8\_G);

Serial.print("Accelerometer range set to: ");

switch (mpu.getAccelerometerRange()) {

case MPU6050\_RANGE\_2\_G:

Serial.println("+-2G");

break;

case MPU6050\_RANGE\_4\_G:

Serial.println("+-4G");

break;

case MPU6050\_RANGE\_8\_G:

Serial.println("+-8G");

break;

case MPU6050\_RANGE\_16\_G:

Serial.println("+-16G");

break;

}

mpu.setGyroRange(MPU6050\_RANGE\_500\_DEG);

Serial.print("Gyro range set to: ");

switch (mpu.getGyroRange()) {

case MPU6050\_RANGE\_250\_DEG:

Serial.println("+- 250 deg/s");

break;

case MPU6050\_RANGE\_500\_DEG:

Serial.println("+- 500 deg/s");

break;

case MPU6050\_RANGE\_1000\_DEG:

Serial.println("+- 1000 deg/s");

break;

case MPU6050\_RANGE\_2000\_DEG:

Serial.println("+- 2000 deg/s");

break;

}

mpu.setFilterBandwidth(MPU6050\_BAND\_21\_HZ);

Serial.print("Filter bandwidth set to: ");

switch (mpu.getFilterBandwidth()) {

case MPU6050\_BAND\_260\_HZ:

Serial.println("260 Hz");

break;

case MPU6050\_BAND\_184\_HZ:

Serial.println("184 Hz");

break;

case MPU6050\_BAND\_94\_HZ:

Serial.println("94 Hz");

break;

case MPU6050\_BAND\_44\_HZ:

Serial.println("44 Hz");

break;

case MPU6050\_BAND\_21\_HZ:

Serial.println("21 Hz");

break;

case MPU6050\_BAND\_10\_HZ:

Serial.println("10 Hz");

break;

case MPU6050\_BAND\_5\_HZ:

Serial.println("5 Hz");

break;

}

Serial.println("");

delay(100);

}

void loop() {

/\* Get new sensor events with the readings \*/

sensors\_event\_t a, g, temp;

mpu.getEvent(&a, &g, &temp);

/\* Print out the values \*/

Serial.print("Acceleration X: ");

Serial.print(a.acceleration.x \* 0.1019716212978);

Serial.print(", Y: ");

Serial.print(a.acceleration.y \* 0.1019716212978);

Serial.print(", Z: ");

Serial.print(a.acceleration.z \* 0.1019716212978);

Serial.println(" g");

Serial.print("Rotation X: ");

Serial.print(g.gyro.x \* 57.2958);

Serial.print(", Y: ");

Serial.print(g.gyro.y \* 57.2958);

Serial.print(", Z: ");

Serial.print(g.gyro.z \* 57.2958);

Serial.println(" deg/s");

/\*Serial.print("Temperature: ");

Serial.print(temp.temperature);

Serial.println(" degC");\*/

Serial.println("");

delay(500);

}