**Mpu6050:**

**Coding**

#include <Adafruit\_MPU6050.h>

#include <Adafruit\_Sensor.h>

#include <Wire.h>

Adafruit\_MPU6050 mpu;

void setup(void) {

**Serial**.begin(115200);

  // Try to initialize!

  if (!mpu.begin()) {

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

    while (1) {

      delay(10);

    }

  }

**Serial**.println("MPU6050 Found!");

  // set accelerometer range to +-8G

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

  // set gyro range to +- 500 deg/s

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

  // set filter bandwidth to 21 Hz

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

  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 readings \*/

**Serial**.print("Acceleration X: ");

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

**Serial**.print(", Y: ");

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

**Serial**.print(", Z: ");

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

**Serial**.println(" m/s^2");

**Serial**.print("Rotation X: ");

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

**Serial**.print(", Y: ");

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

**Serial**.print(", Z: ");

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

**Serial**.println(" rad/s");

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

**Serial**.print(temp.temperature);

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

**Serial**.println("");  delay(1000); }

**Ultrasonic 2**

#define trigPin 2            //sensor A

#define echoPin 3          //sensor A

#define btrigPin 7          //sensor B

#define bechoPin 8         //sensor B

#define LED 13

#define LED2 12

unsigned long blinkTime = 0;

void blink(void)

{  static int x = 0;                   /\* Current LED state 0=>off, 1=>on     \*/

   digitalWrite(LED,x ^= 1);           /\* Set LED to opposite state           \*/

   blinkTime = millis();               /\* Schedule next state change          \*/

}

void watch(void)

{  if (millis() - blinkTime >= 1)    /\* If it's time to change state        \*/

      blink();                         /\*  then go do it                      \*/

}

void setup() {

**Serial**.begin (9600);

  pinMode(trigPin, OUTPUT);

  pinMode(echoPin, INPUT);

  pinMode(btrigPin, OUTPUT);

  pinMode(bechoPin, INPUT);

  pinMode(LED, OUTPUT);

  pinMode(LED2, OUTPUT);

}

void loop() {

  int bduration, bdistance;

  digitalWrite(btrigPin, HIGH);

  delayMicroseconds(1000);

  digitalWrite(btrigPin, LOW);

  bduration = pulseIn(bechoPin, HIGH);

  bdistance = (bduration/2) / 29.1;

  int duration, distance;

  digitalWrite(trigPin, HIGH);

  delayMicroseconds(1000);

  digitalWrite(trigPin, LOW);

  duration = pulseIn(echoPin, HIGH);

  distance = (duration/2) / 29.1;

  if (distance >= 3 && distance <= 200)

  {

**Serial**.print(distance);

**Serial**.println(" cm");

    digitalWrite(LED, HIGH);

  }

   if (bdistance >= 3 && bdistance <= 200)

  {

    digitalWrite(LED2, HIGH);

  }

  else {

**Serial**.println("Out of range");

     digitalWrite(LED, LOW);

     digitalWrite(LED2, LOW);

  }

  delay(50);

}