**LAB 1: Ultrasonic Sensor**

int inches = 0;

int cm = 0;

long readUltrasonicDistance(int triggerPin, int echoPin)

{

pinMode(triggerPin, OUTPUT); // Clear the trigger

digitalWrite(triggerPin, LOW);

delayMicroseconds(2);

// Sets the trigger pin to HIGH state for 10 microsesconds

digitalWrite(triggerPin, HIGH);

delayMicroseconds(10);

digitalWrite(triggerPin, LOW);

pinMode(echoPin, INPUT);

// Reads the echo pin, and returns the sound wave travel time in microseconds

return pulseIn(echoPin, HIGH);

}

void setup()

{

Serial.begin(9600);

}

void loop()

{

// measure the ping time in cm

cm = 0.01723 \* readUltrasonicDistance(7, 6);

// convert to inches by dividing by 2.54

inches = (cm / 2.54);

Serial.print(inches);

Serial.print("in, ");

Serial.print(cm);

Serial.println("cm");

delay(100); // Wait for 100 millisecond(s)

}