```
int calibrationTime = 30;

//the time when the sensor outputs a low impulse
long unsigned int lowIn;

//the amount of milliseconds the sensor has to be low
//before we assume all motion has stopped
long unsigned int pause = 5000;

boolean lockLow = true;
boolean takeLowTime;

int pirPin = 3;    //the digital pin connected to the PIR sensor's output
int ledPin = 13;


/////////////////////////////
//SETUP
void setup(){
  Serial.begin(9600);
  pinMode(pirPin, INPUT);
  pinMode(ledPin, OUTPUT);
  digitalWrite(pirPin, LOW);

  //give the sensor some time to calibrate
  Serial.print("calibrating sensor ");
    for(int i = 0; i < calibrationTime; i++){
      Serial.print(".");
      delay(1000);
      }
    Serial.println(" done");
    Serial.println("SENSOR ACTIVE");
    delay(50);
  }

/////////////////////////////
//LOOP
void loop(){

     if(digitalRead(pirPin) == HIGH){
       digitalWrite(ledPin, HIGH);   //the led visualizes the sensors output
pin state
       if(lockLow){
         //makes sure we wait for a transition to LOW before any further
output is made:
         lockLow = false;
         Serial.println("---");
         Serial.print("motion detected at ");
```

```
          Serial.print(millis()/1000);
          Serial.println(" sec");
          delay(50);
          }
          takeLowTime = true;
        }

     if(digitalRead(pirPin) == LOW){
        digitalWrite(ledPin, LOW);  //the led visualizes the sensors output pin
state

        if(takeLowTime){
         lowIn = millis();          //save the time of the transition from high
to LOW
         takeLowTime = false;       //make sure this is only done at the start
of a LOW phase
         }
        //if the sensor is low for more than the given pause,
        //we assume that no more motion is going to happen
        if(!lockLow && millis() - lowIn > pause){
            //makes sure this block of code is only executed again after
            //a new motion sequence has been detected
            lockLow = true;
            Serial.print("motion ended at ");      //output
            Serial.print((millis() - pause)/1000);
            Serial.println(" sec");
            delay(50);
            }
        }
  }
```