Tech Studio 01 – PIR Sensor with LED

PIR Sensor with LED

Start a new project in TinkerCAD

Initial Steps:

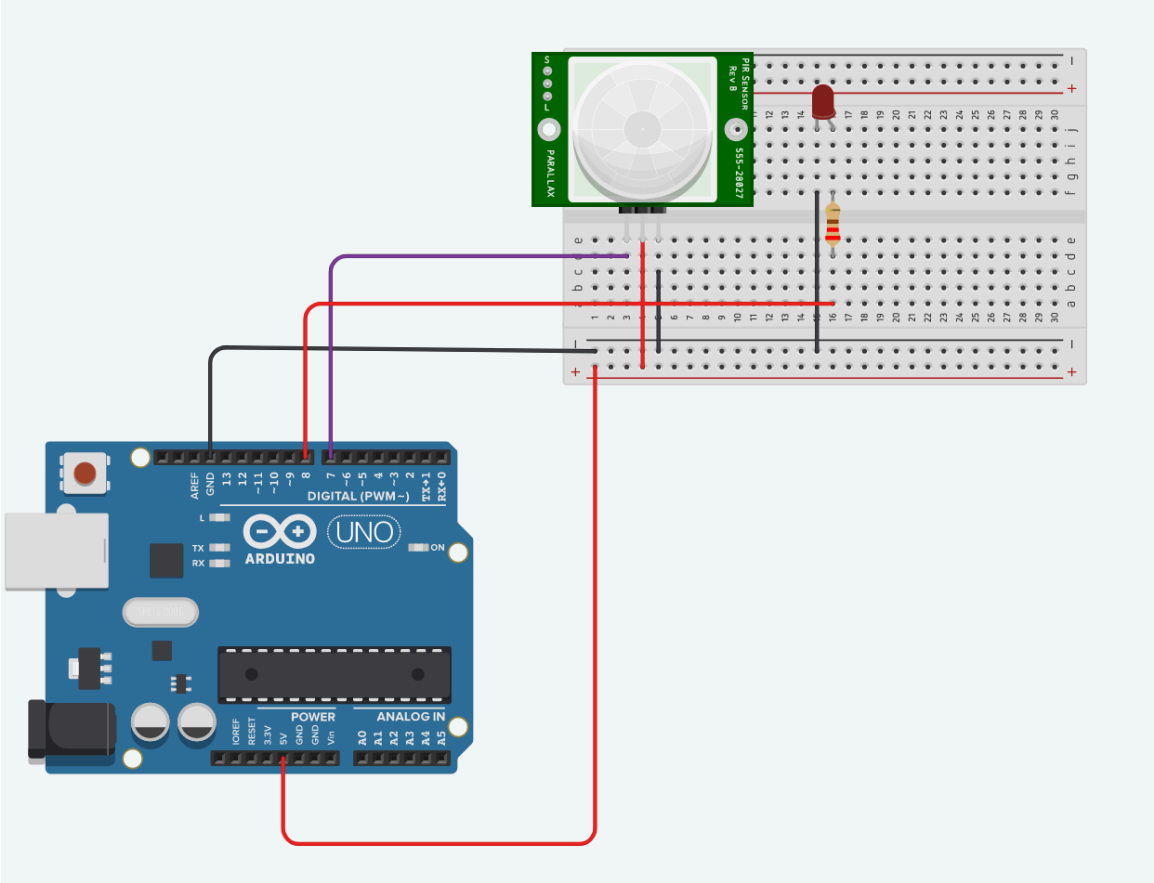
- Create a “PERSONAL” account on www.tinkercad.com
- In the Dashboard, select “Circuits” > Create new Circuit

Basic Components:

- Arduino Board
- Breadboard
- LED Light
- 220 ohm Resistor
- PIR Sensor

PIR Sensor

PIR (Passive Infrared) Sensor has three prongs. When you roll over them it will identify them as Signal – Power – Ground.



The Code

```
/*
 * PIR sensor tester
 */

int ledPin = 8;                // choose the pin for the LED
int inputPin = 7;              // choose the input pin (for PIR sensor)
int pirState = LOW;            // we start, assuming no motion detected
int val = 0;                   // variable for reading the pin status

void setup() {
  pinMode(ledPin, OUTPUT);      // declare LED as output
  pinMode(inputPin, INPUT);     // declare sensor as input

  Serial.begin(9600);
}

void loop(){
  val = digitalRead(inputPin);  // read input value
  if (val == HIGH) {            // check if the input is HIGH
    digitalWrite(ledPin, HIGH);  // turn LED ON
    if (pirState == LOW) {
      // we have just turned on
      Serial.println("Motion detected!");
      // We only want to print on the output change, not state
      pirState = HIGH;
    }
  } else {
    digitalWrite(ledPin, LOW); // turn LED OFF
    if (pirState == HIGH){
      // we have just turned of
      Serial.println("Motion ended!");
      // We only want to print on the output change, not state
      pirState = LOW;
    }
  }
}
```