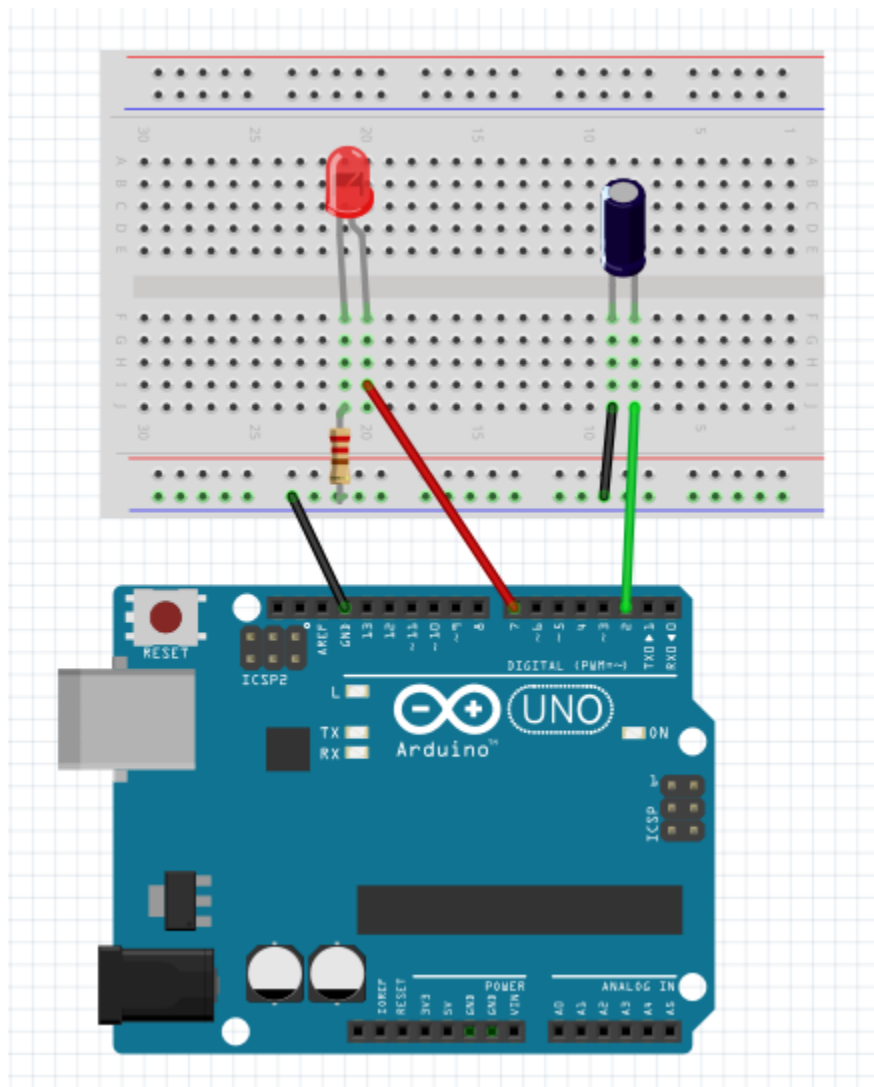


Circuit Recipe: Circuit 4 – A Tilt Switch

Circuit Description:

This project adds the use of a variable and an IF structure to make a decision while the program is running. We also add the tilt sensor.

Circuit Diagram:



Notes:

- Place a wire from the blue bar on the breadboard to GND (ground) on the Arduino
- Place colored LED on the breadboard. In my diagram, the positive leg (longer leg) for the LED is on the right.
- Run a line from digital pin 7 on the Arduino to the positive leg of the LED
- Run a 220 resistor from the negative leg of the LED to the blue bar on the breadboard
- Add the tilt sensor to the breadboard – it doesn't matter which side is to the left or right
- Run a line from digital pin 2 on the Arduino to one leg of the tilt sensor
- Run a line from the other leg of the tilt sensor to the blue bar (ground)

Arduino Code:

For this project, we introduce the variable 'tilt' before the setup section.

Also, we set digital pin 2 (our input pin) HIGH which is a little non-intuitive. As long as pin 2 is connected to ground, the current runs out to ground and the pin reads to the program as LOW. When the circuit is broken, the pin reads HIGH because the current has nowhere to go.

```
tiltswitch
1 int tilt = 0;
2
3 void setup() {
4   pinMode(7, OUTPUT);
5   digitalWrite(7, LOW);
6   pinMode(2, INPUT);
7   digitalWrite(2, HIGH);
8 }
9
10 void loop() {
11   tilt = digitalRead(2);
12   if(tilt == 1){
13     digitalWrite(7, HIGH);
14   }
15   else{
16     digitalWrite(7, LOW);
17   }
18   delay(100);
19 }
```