5. Sticky On/Off button

Lets program a second behaviour that to make the button "stick".

Code

```
// Turn on LED when the button is pressed
// and keep it on after it is released

const int buttonPin = 2;
const int ledPin =  13;

int buttonState = 0;  // variable for reading the pushbutton status
int val = 0;          // val will be used to store the state of the input pin
int old_val = 0;      // this variable stores the previous value of "val"

void setup() {
  // initialize the LED pin as an output
  // & the pushbutton pin as an input
  pinMode(ledPin, OUTPUT);
  pinMode(buttonPin, INPUT);
}

void loop() {
  // read the state of the pushbutton value:
  val = digitalRead(buttonPin);

  // check if there was a transition
  if ((val == HIGH) && (old_val == LOW)) {
    buttonState = 1 - buttonState;
    delay(10);    // small delay for debouncing
  }

  old_val = val;  // val is now old, let's store it

  // check if the pushbutton is pressed. If it is, the buttonState is HIGH:
  if (buttonState == 1) {
    digitalWrite(ledPin, HIGH); // turn LED on
  } else {
    digitalWrite(ledPin, LOW);  // turn LED off
  }
}
```