Exercise 3_Digital input

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Latch code

```
bool this_state;
bool last_state;

void setup() {
  pinMode(8, OUTPUT);
  pinMode(9, INPUT);
}

void loop() {
  this_state = digitalRead(9);
  if (this_state != last_state)
  {
    //update the switch state
    last_state = this_state;

    //"HIGH condition code"
    //switch goes from LOW to HIGH
    if(this_state == HIGH)
    {
      //LED on pin 8 is Push ON, Push OFF
      digitalWrite(8,!digitalRead(8));
    }
  }
  delay(10);
}
```

Questions

- 3a: What is the difference between pinMode(PIN, INPUT) and pinMode(PIN, INPUT PULLUP)?

Both commands sets the pin to input, but the input pullup sets the input to high if nothing else is connected to the input.

- 3b: How often do your program check if the button has been pushed? Does this seem reasonable?

Every 10ms, this is reasonable since it doesn't use any unnecessary resources and is still fast enough to detect every button push.

- 3c: What is the operator ! used for?

Logical NOT results in a true if the operand is false and vice versa.