Arduino

Wednesday, 24 March 2021 16:58

1.1

```
// this function is looped indefinitely after setup() is finished
void loop()
{
    digitalWrite(13, HIGH); // set the voltage of pin 13 to HIGH (5V) so the LED turns on
    delay(1000);            // wait for 1000 milliseconds
    digitalWrite(13, LOW);  // set the voltage of pin 13 to LOW (0V)
    delay(1000);            // wait for 1000 milliseconds

    digitalWrite(13, HIGH);
    delay(500);
    digitalWrite(13, LOW);
    delay(500);
}
```

→ lang

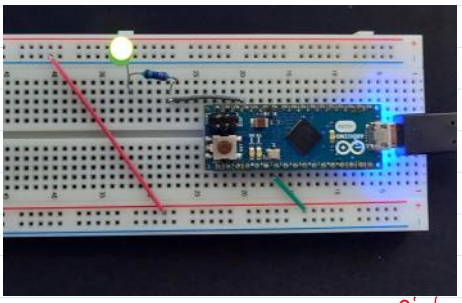
→ kurz

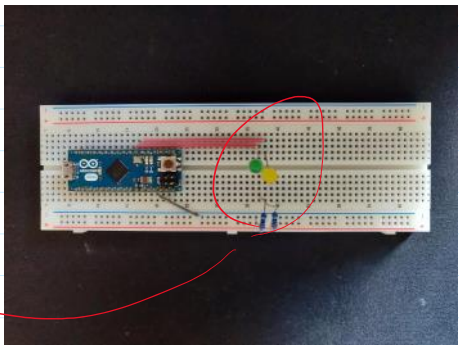
1.2

1.3.

```
// this function is called once upon
void setup()
{
    // pin 13 is connected to the in
    // define it as an output pin so
    pinMode(2, OUTPUT);
}

// this function is looped indefinit
void loop()
{
    digitalWrite(2, HIGH); // set th
    delay(1000);           // wait
    digitalWrite(2, LOW);  // set th
    delay(1000);           // wait

    digitalWrite(2, HIGH);
    delay(500);
    digitalWrite(2, LOW);
    delay(500);
}
```

neuer Pin, nicht mehr 13 (interne LED)





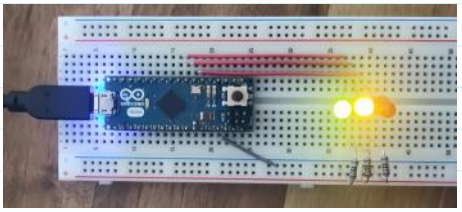
Siehe 1.2.
→ zwei LEDs

1.4.

```
You, seconds ago | 2 authors (You and others)
#include <Arduino.h>

void setup()
{
    pinMode(2, OUTPUT);
    pinMode(3, OUTPUT);
    pinMode(4, OUTPUT);

    reset();
}

void reset() {
  digitalWrite(2, LOW);
  digitalWrite(3, LOW);
  digitalWrite(4, LOW);
}

void loop() {
  reset();
  for (int i = 0; i < 8; ++i) {
    // shift bytes        You, seconds ago • Uncom
    digitalWrite( 2, ((i >> 2) % 2) == 1);
    digitalWrite( 3, ((i >> 1) % 2) == 1);
    digitalWrite( 4, ((i >> 0) % 2) == 1);
    delay(2000);
  }
}
```

8x da $3 \cdot 3 \cdot 3$ → 9 Möglichkeiten (mit 0)

Bytes werden immer 1 geshiftet



2

```
#include <Arduino.h>

int poti = 0;
int val = 0;
int speaker = 4;        You, seco

void setup()
{
    delay(2000);
    pinMode(2, OUTPUT);
    Serial.begin(96000);
}

void loop() {
    val = analogRead(poti);
    Serial.println(val);
    tone(speaker, val * 2);
    delay(200);
}
```

Play a Melody using the tone() function | Arduino

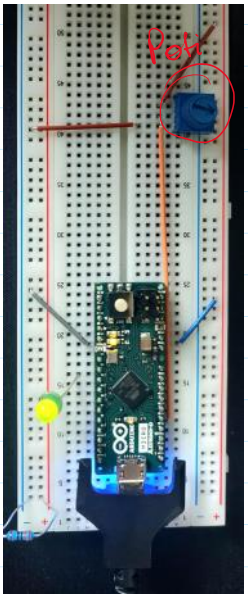
spielt verschiedene Töne

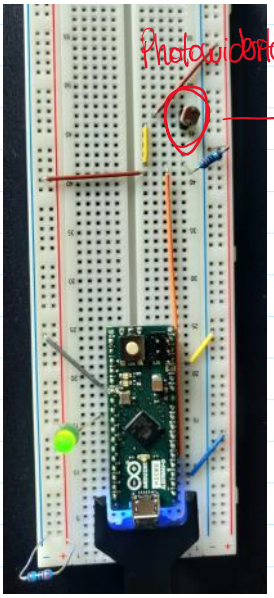
→ tone() - Funktion

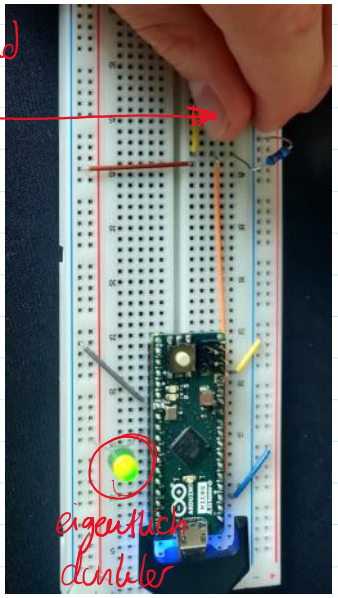
3.

```ino
#include <Arduino.h>

// only ADC pins can be used for analog input
#define POTI_PIN A0
// only PWM pins can be used for analog output
#define LED_PIN 4

void setup()
{
    pinMode(POTI_PIN, INPUT);
    pinMode(LED_PIN, OUTPUT);

    Serial.begin(9600);
}

void loop()
{
    // analogRead() returns a value between 0 and 1023
    int brightness = analogRead(POTI_PIN);

    analogWrite(LED_PIN, brightness);

    Serial.println(brightness);

    delay(100);
}
```

↳ auslesen







4 Shift Funktion in Minecraft

→ mit nur wenigen Buttons möglichst viel abdecken
→ 3 Buttons → B1 ; B2 ; Shift
→ Links + rechts
↳ mit Shift vorwärts und schlagen

=> Siehe Video und Code

Arduino - Button Library | Arduino Tutorial (arduinogetstarted.com)

↳ Button Debounce Library

Minecraft Classic

↳ Spiel