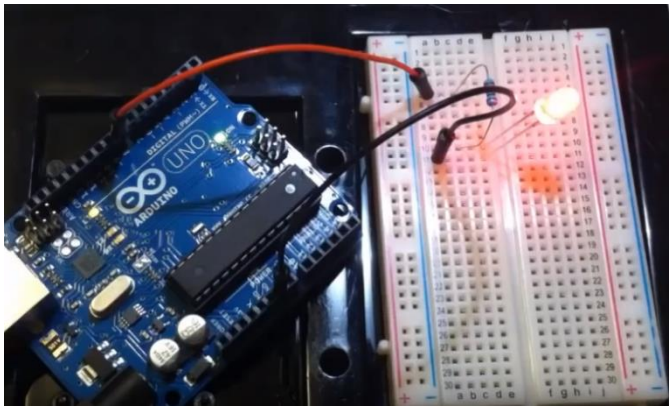
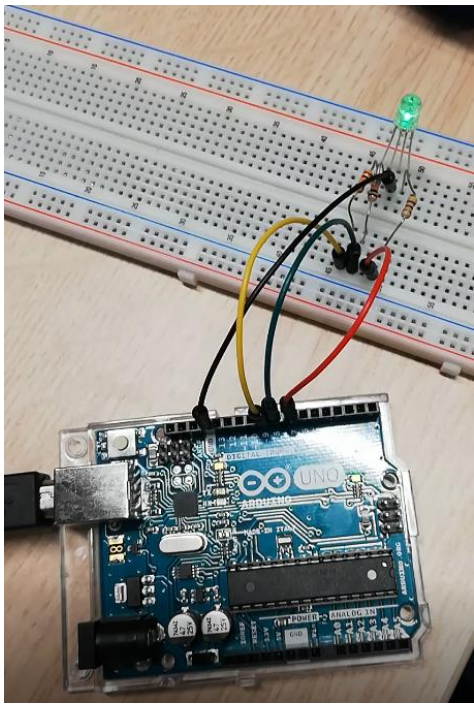
Arduino

Assignment 1: Connect a LED to PIN 8 and make sure your ‘blink’ code works.

```
int led = 8;

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

void loop() {
  digitalWrite(8, HIGH);
  delay(1000);
  digitalWrite(8, LOW);
  delay(1000);
}
```



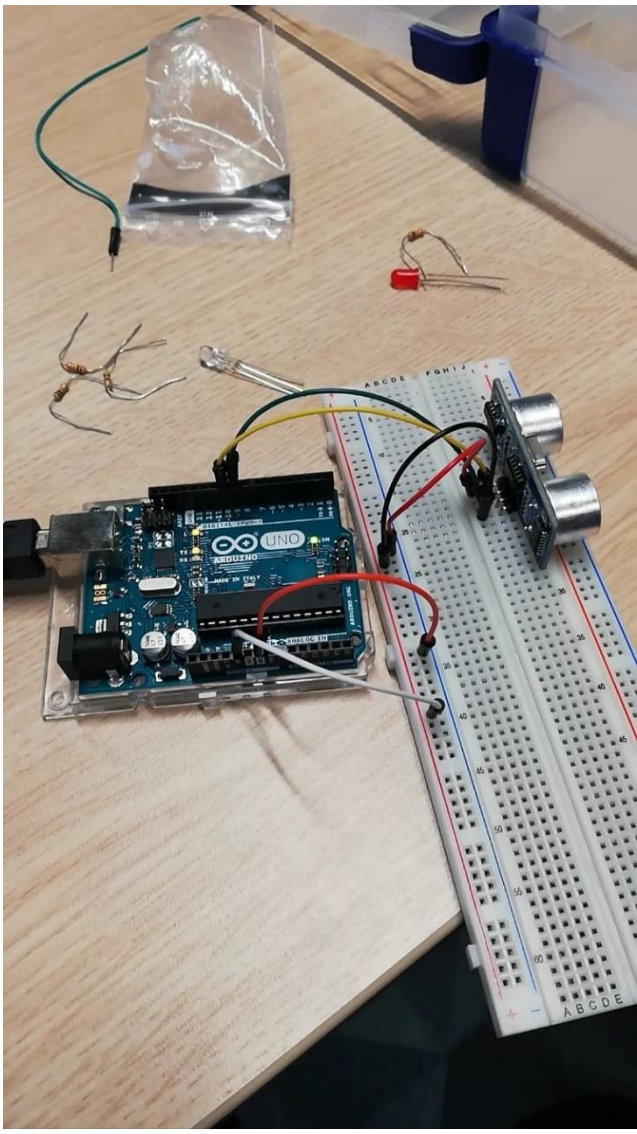
Assignment 2: Adjust the Blink code to make the RGB LED blink three colors or more.



```
int redPin= 7;
int greenPin = 8;
int bluePin = 9;

void setup() {
  // put your setup code here, to run once:
  pinMode(redPin, OUTPUT);
  pinMode(greenPin, OUTPUT);
  pinMode(bluePin, OUTPUT);
}

void loop() {
  setColor(255, 0, 0); // Red Color
  delay(1000);
  setColor(0, 255, 0); // Green Color
  delay(1000);
  setColor(0, 0, 255); // Blue Color
  delay(1000);
  setColor(255, 255, 255); // White Color
  delay(1000);
  setColor(170, 0, 255); // Purple Color
  delay(1000);

}
void setColor(int redValue, int greenValue, int blueValue) {
  analogWrite(redPin, redValue);
  analogWrite(greenPin, greenValue);
  analogWrite(bluePin, blueValue);
}
```

Link: https://youtu.be/p-Zh8_AzPNM

Assignment 3: read out sensor distance values



```
const int trigPin = 9;
const int echoPin = 10;

// defines variables
long duration;
int distance;

void setup() {
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
Serial.begin(9600);

void setColor(int redValue, int greenValue, int blueValue) {
  analogWrite(redPin, redValue);
  analogWrite(greenPin, greenValue);
  analogWrite(bluePin, blueValue);
}

void loop() {
// Clears the trigPin
digitalWrite(trigPin, LOW);
delayMicroseconds(2);


digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);


duration = pulseIn(echoPin, HIGH);

// Berekenen van de afstand
distance= duration*0.034/2;


Serial.print("Distance: ");
Serial.println(distance);

if (distance >= 0 && distance <= 20) {
  setColor(255, 0, 0); // Red Color
  delay(1000);
  setColor(255, 255, 0); // Red Color
  delay(1000);
}
}
```

Link:
https://youtu.be/rBWexKoSyBk