IoT Arduino : TP 1

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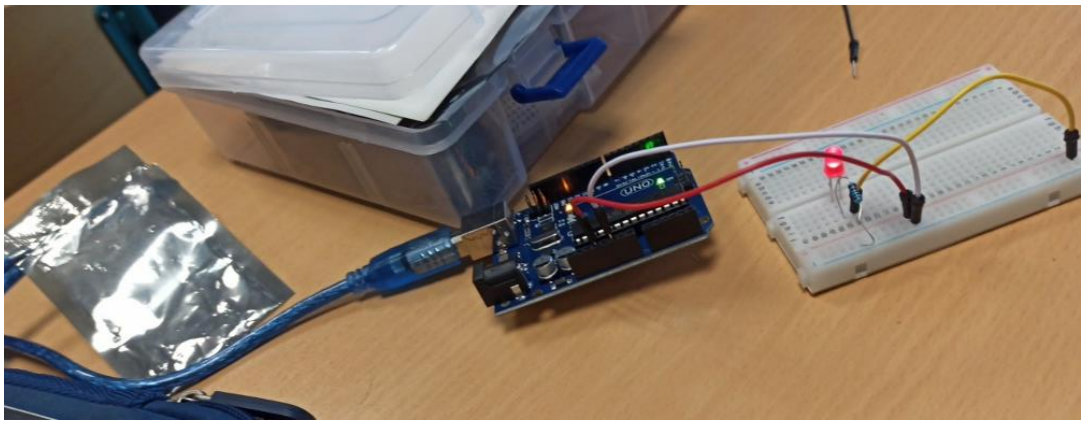
Exercise 1: Turning on/off an LED



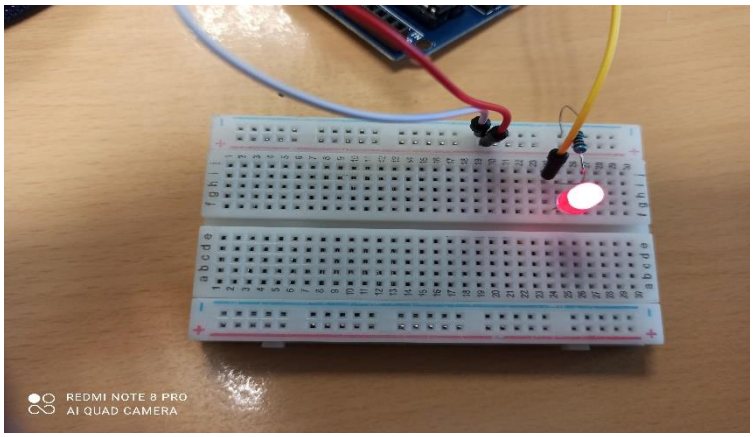
Exercise 2: Turn on and off an LED in port 4

1. Code

sketch_nov27a

```
const int LED = 4;

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

void loop() {
  // put your main code here, to run repeatedly:
  digitalWrite(LED, HIGH);
  delay(1000);
  digitalWrite(LED, LOW);
  delay(1000);
}
```

2. Result



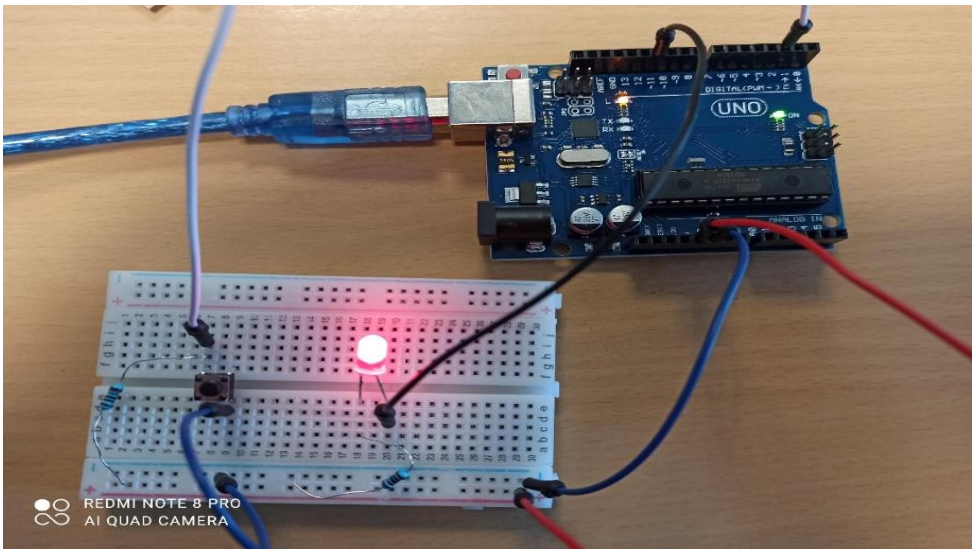
Exercise 3: Read a Digital Value

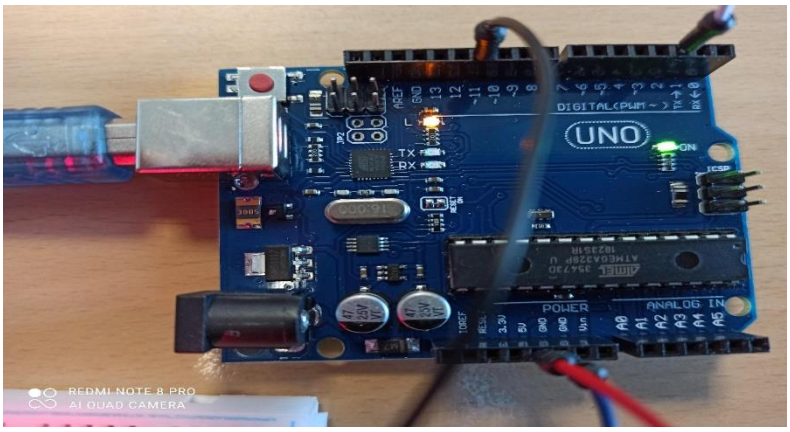
1. Code

ex_3

```
const int ledPin = 2;
const int buttonPin = 4;

int buttonState = 0;


void setup(){
  Serial.begin(9600);
  pinMode(ledPin, OUTPUT);
  pinMode(buttonPin, INPUT);

}

void loop(){
  buttonState = digitalRead(buttonPin);
  if (buttonState == HIGH){
    digitalWrite(ledPin, HIGH);

  }
  else{
    digitalWrite(ledPin, LOW);
  }
}
```

2. Result

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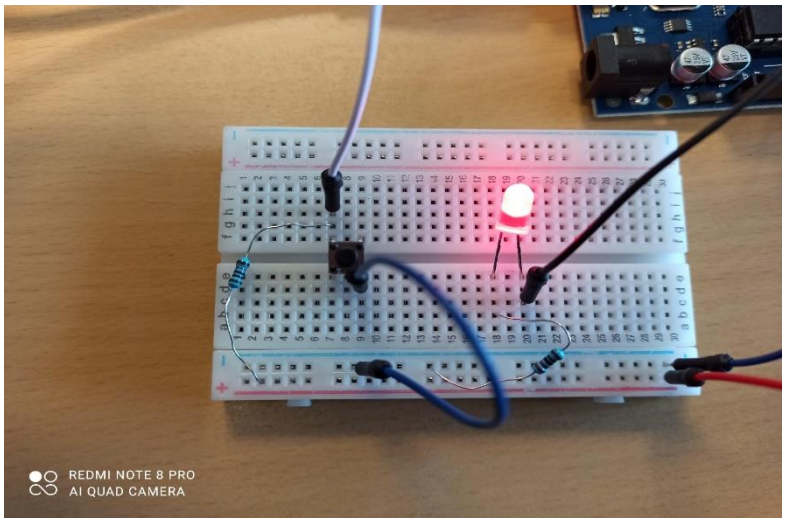
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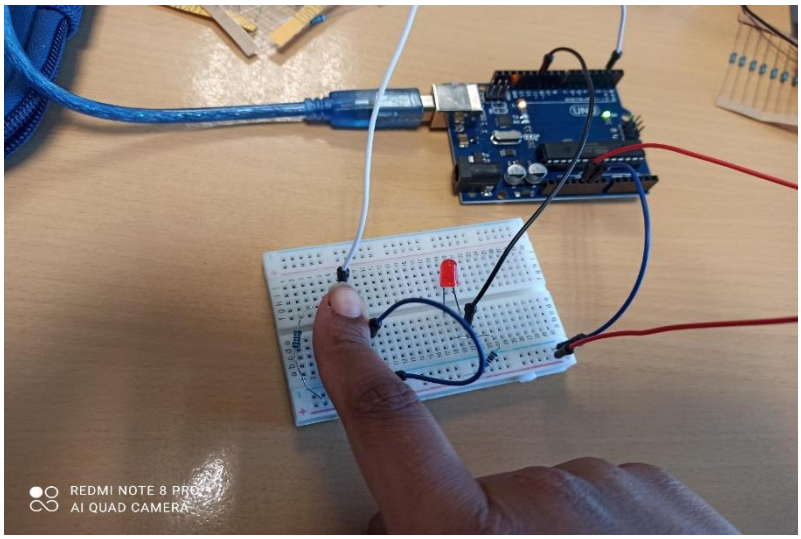
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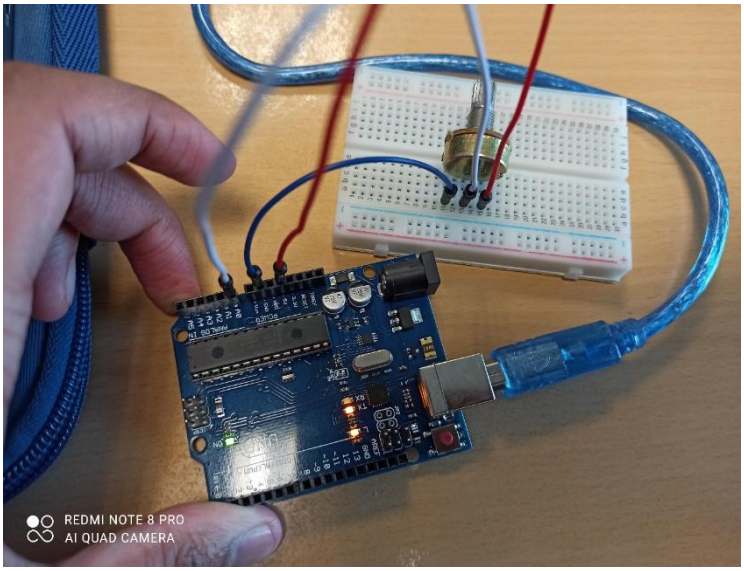
Exercise 4:

1. Code

ex_4

```
void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
}

void loop() {
  // put your main code here, to run repeatedly:
  int sensorValue = analogRead(A0);
  float voltage = sensorValue * (5.0 / 1023.0);
  Serial.println(voltage);
}
```

2. Result



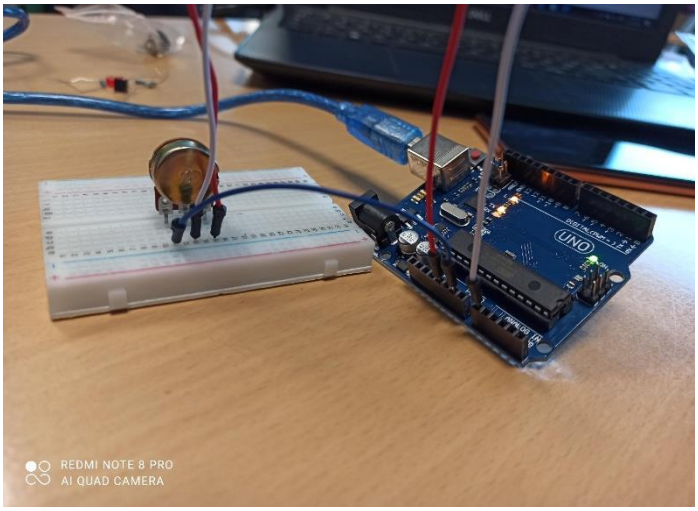
Exercise 5: Write an Analog Value

1. Code

ex_4

```
int ledPin = 13;
int anaPin = A0;

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
  pinMode(ledPin, OUTPUT);
  pinMode(anaPin, INPUT);

}

void loop(){
  // put your main code here, to run repeatedly:
  int sensorValue = analogRead(A0);
  float voltage = sensorValue * (5.0 / 1023.0);
  Serial.println(sensorValue);

    digitalWrite(ledPin, HIGH);
    delay(sensorValue);
    digitalWrite(ledPin, LOW);
    delay(sensorValue);

 }
```

2. Result



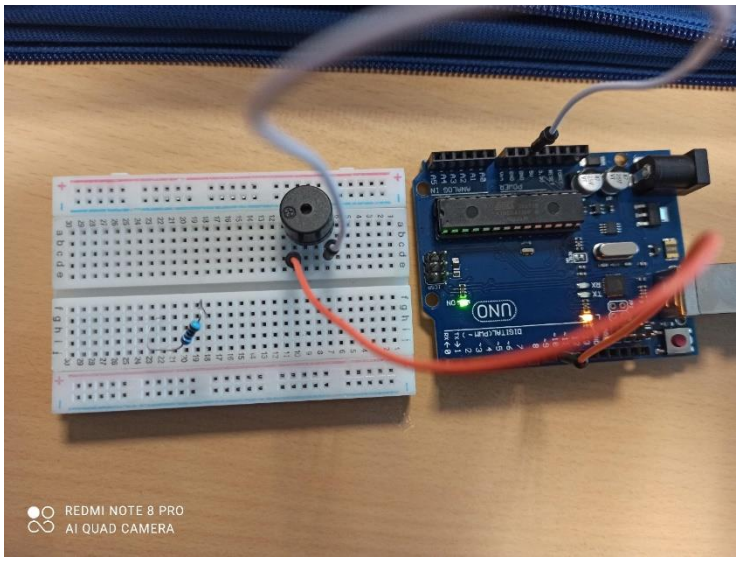
Exercise 6: Buzzer

1. Code

ex_5

```
const int buzzer = 6; //buzzer to arduino pin 9


void setup(){

  pinMode(buzzer, OUTPUT); // Set buzzer - pin 9 as an output

}

void loop(){

  tone(9,200,2000); // Send 1KHz sound signal...
  delay(1000);          // ...for 1 sec
  noTone(buzzer);       // Stop sound...
  delay(1000);          // ...for 1sec

}
```

2. Result



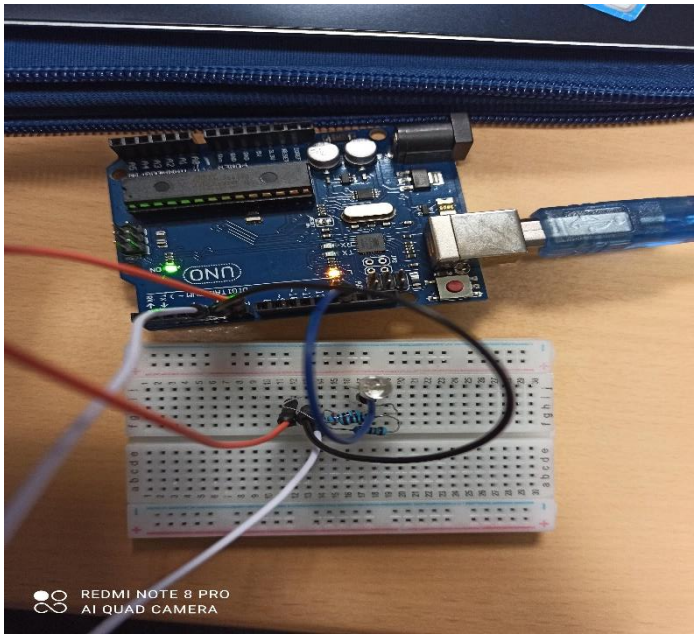
Exercise 7: Fun RGB – LED

1. Code

ex_7

```
int redPin= 7;
int greenPin = 6;
int bluePin = 5;

void setup() {
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(254, 127, 156); // Purple Color
  delay(1000);
}
void setColor(int redValue, int greenValue, int blueValue) {
  analogWrite(redPin, redValue);
  analogWrite(greenPin, greenValue);
  analogWrite(bluePin, blueValue);
}
```

2. Result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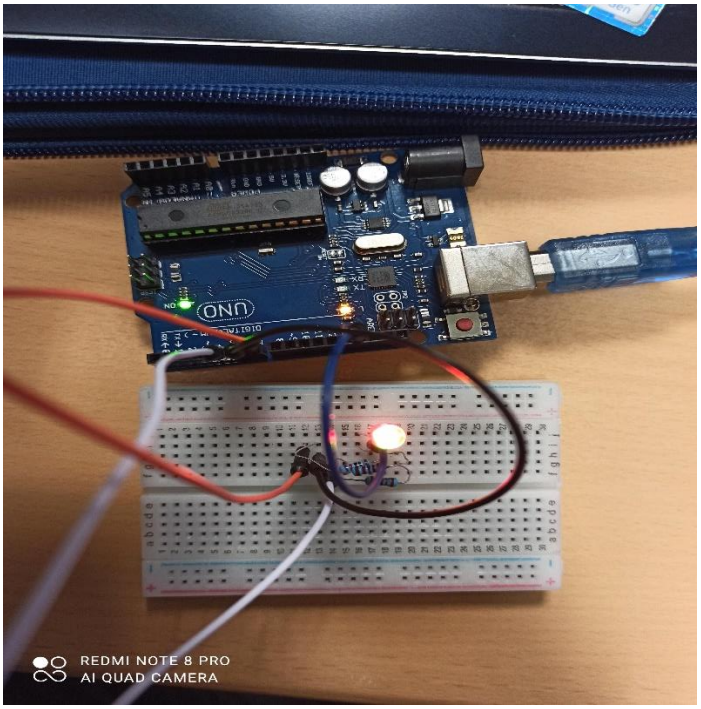
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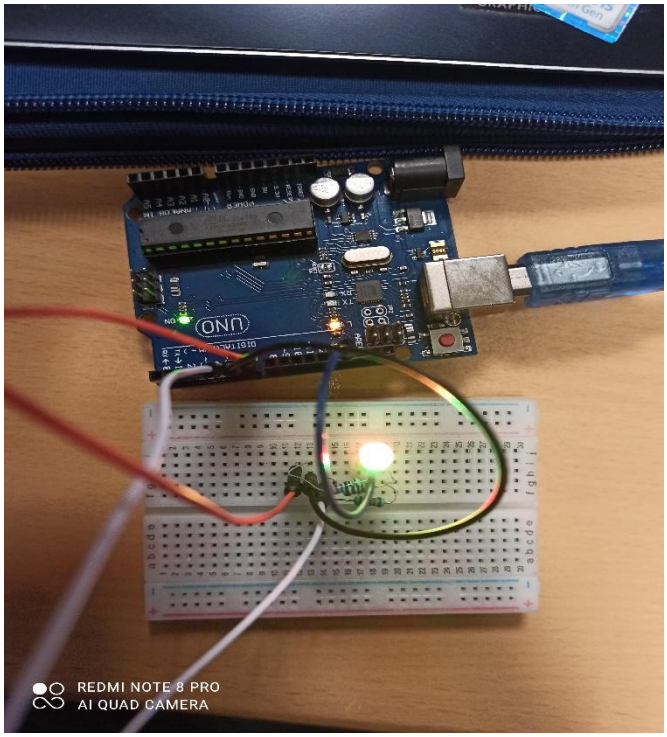
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