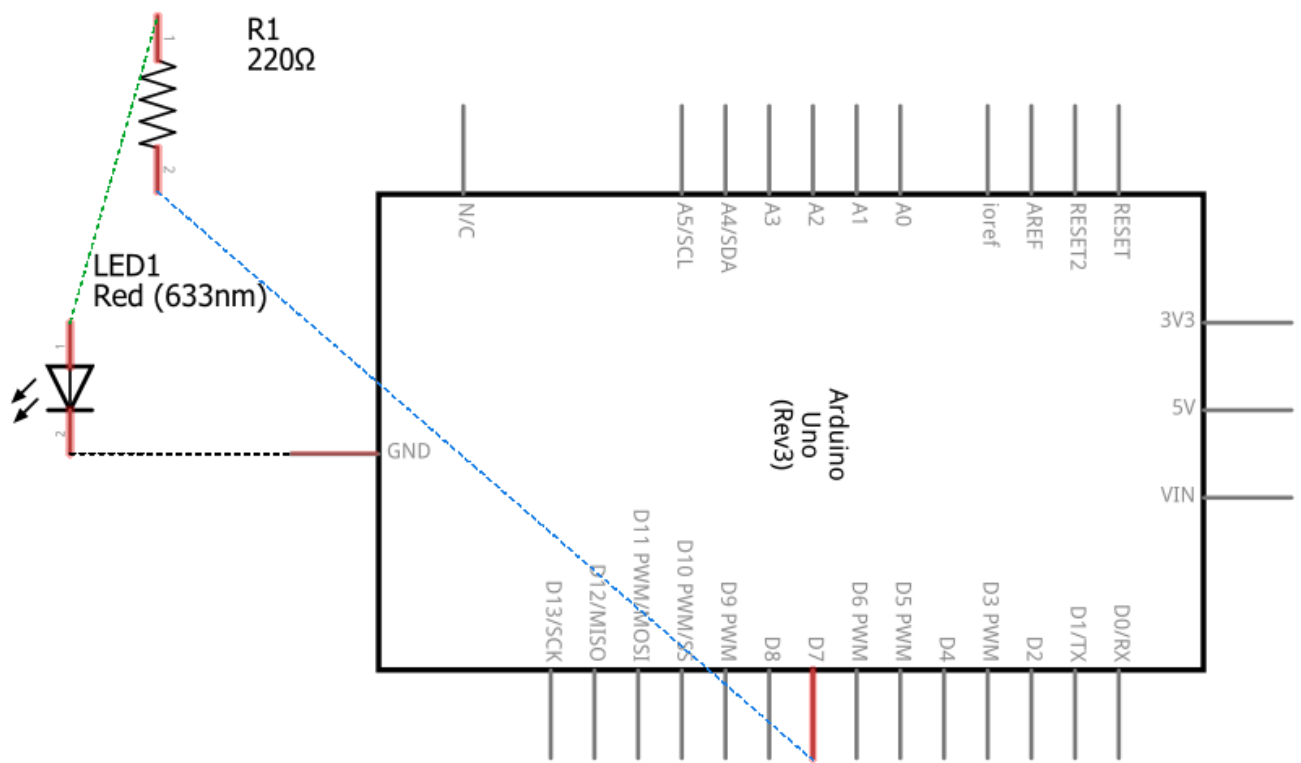Jonne Kaajalahti

Lesson 3 raportti

Piirilevydiagrammi, A

Part1

Koodi, A

```
int ledPin = A2; // initialize the ledpin to be 7
float timeInput = 0.0; // how long it takes for the led to be bright
float freq = 0.0; // initialize the frequency to 500ms
float freqChanger = 0.0;

void setup() {

Serial.begin(9600);
pinMode(ledPin, OUTPUT);

Serial.println("Input the time period between 1s and 5s.");
    while (!Serial.available()) {
        timeInput = Serial.parseFloat();
        Serial.println(timeInput);
    }
}
```
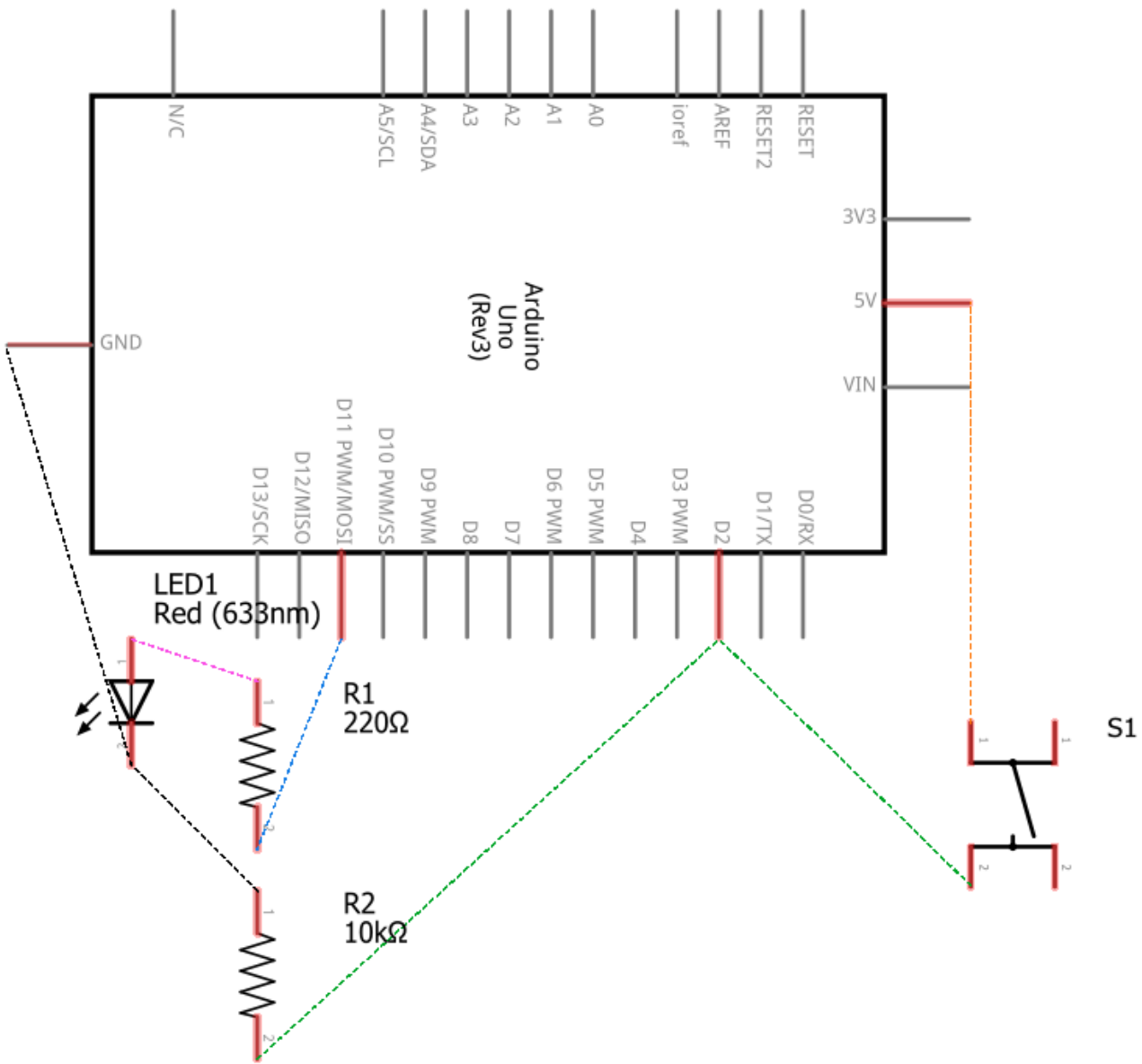
```
void loop() {


    while (freq < timeInput) {
        freq = freq + 0.05;
        digitalWrite(ledPin, HIGH); //the led turns on
        delay(freq); // wait for the time indicated by the variable frec.
        digitalWrite(ledPin, LOW); // the led turns off
        delay(freq);
        Serial.println(freq);
        if (freq == timeInput) {
          break;
        }
    }
    while (freq >= 0) {
        freq = freq - 0.05;
        digitalWrite(ledPin, HIGH); //the led turns on
        delay(freq); //wait for the time indicated by the variable frec.
        digitalWrite(ledPin, LOW); // the led turns off
        delay(freq);
        Serial.println(freq);
    }
}
```

Saimme ledin vilkkumaan eri taajuuksilla, mutta aikasyötteen käyttäminen ei onnistunut

Piirilevydiagrammi, B

Part1

LED1
Red (633nm)

R1
220Ω

R2
10kΩ

S1

Arduino
Uno
(Rev3)

N/C
A5/SCL
A4/SDA
A3
A2
A1
A0
ioref
AREF
RESET2
RESET
3V3
5V
VIN
GND
D13/SCK
D12/MISO
D11 PWM/MOSI
D10 PWM/SS
D9 PWM
D8
D7
D6 PWM
D5 PWM
D4
D3 PWM
D2
D1/TX
D0/RX

fritzing

Koodi, B

```
int button = 0;
int oldbutton = 0;
int buttonPin = 2;
int ledPin = 11;
// variables to hold button and LED status
boolean newButtonState = LOW;
boolean oldButtonState = LOW;
boolean ledStatus = LOW;


// initialize pinmodes for button and LED
void setup() {
    Serial.begin(9600);
    pinMode(buttonPin, INPUT);
    pinMode(ledPin, OUTPUT);
}

void loop()
{
    newButtonState = digitalRead(buttonPin);

    if (newButtonState != oldButtonState)
    {
        // has the button button been pressed?
        if (newButtonState == HIGH) {
            if (ledStatus == LOW) {
                digitalWrite(ledPin, HIGH);
                ledStatus = HIGH;
            }
            else {
            digitalWrite(ledPin, LOW);
            ledStatus = LOW;
            }
        }
        oldButtonState = newButtonState;
    }
}
```

Ledi syttyi kun nappia painaa, kun nappia painaa uudestaan led sammuu.