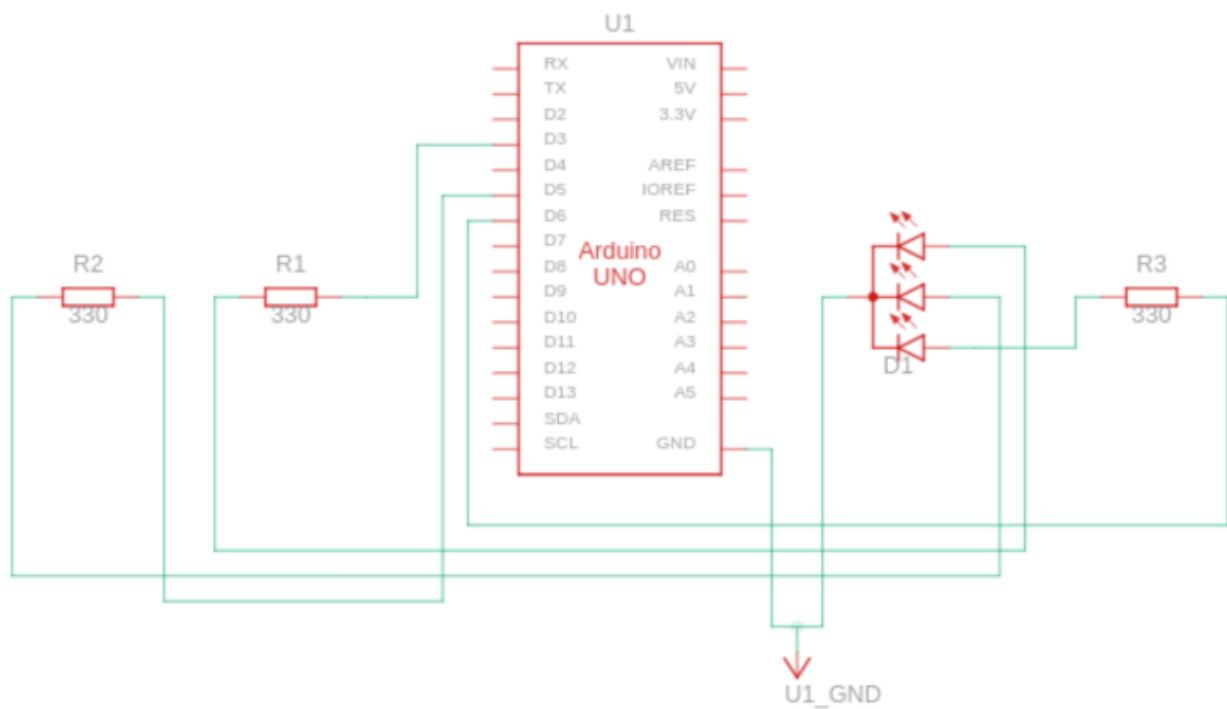


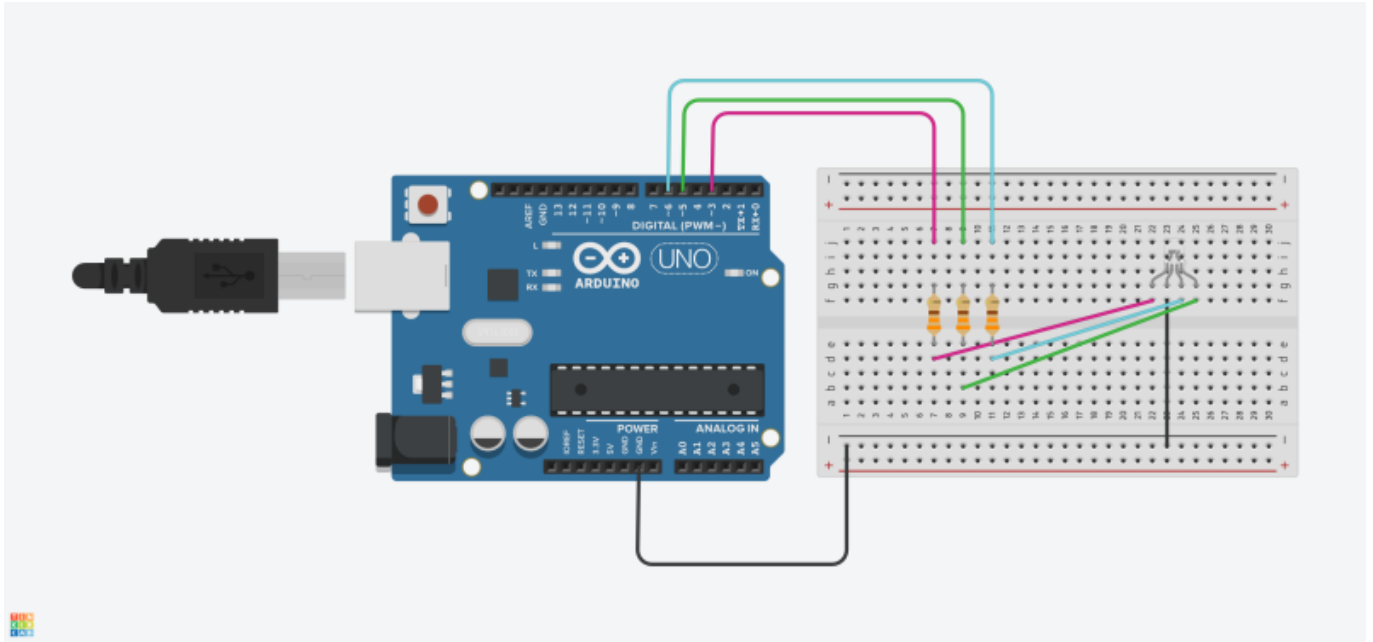
# Exercices Arduino avec la maquette

## Arduino RVB Tinkercad

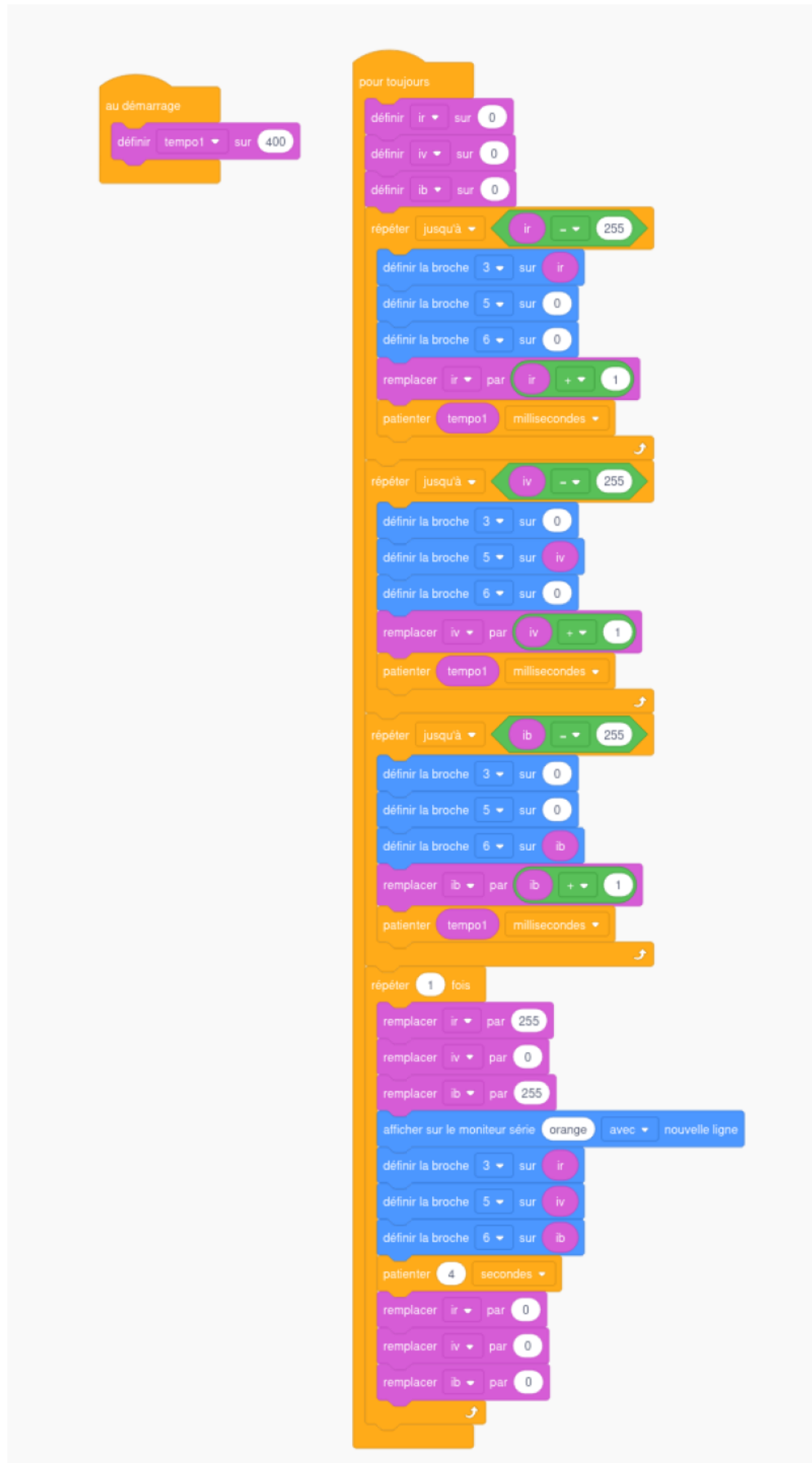
[Code couleurs RVB](#)

### Plans





**Code en mode Block**



## Code

[maquette\\_arduino001.ino](#)

```
// C++ code
// Faire varié les couleurs de la LED RVB
//
int ir = 0; // rouge
int iv = 0; // vert
int ib = 0; // bleu
int tempol = 0;
int counter;

void setup()
{
  pinMode(3, OUTPUT);
  pinMode(5, OUTPUT);
  pinMode(6, OUTPUT);
  Serial.begin(9600);

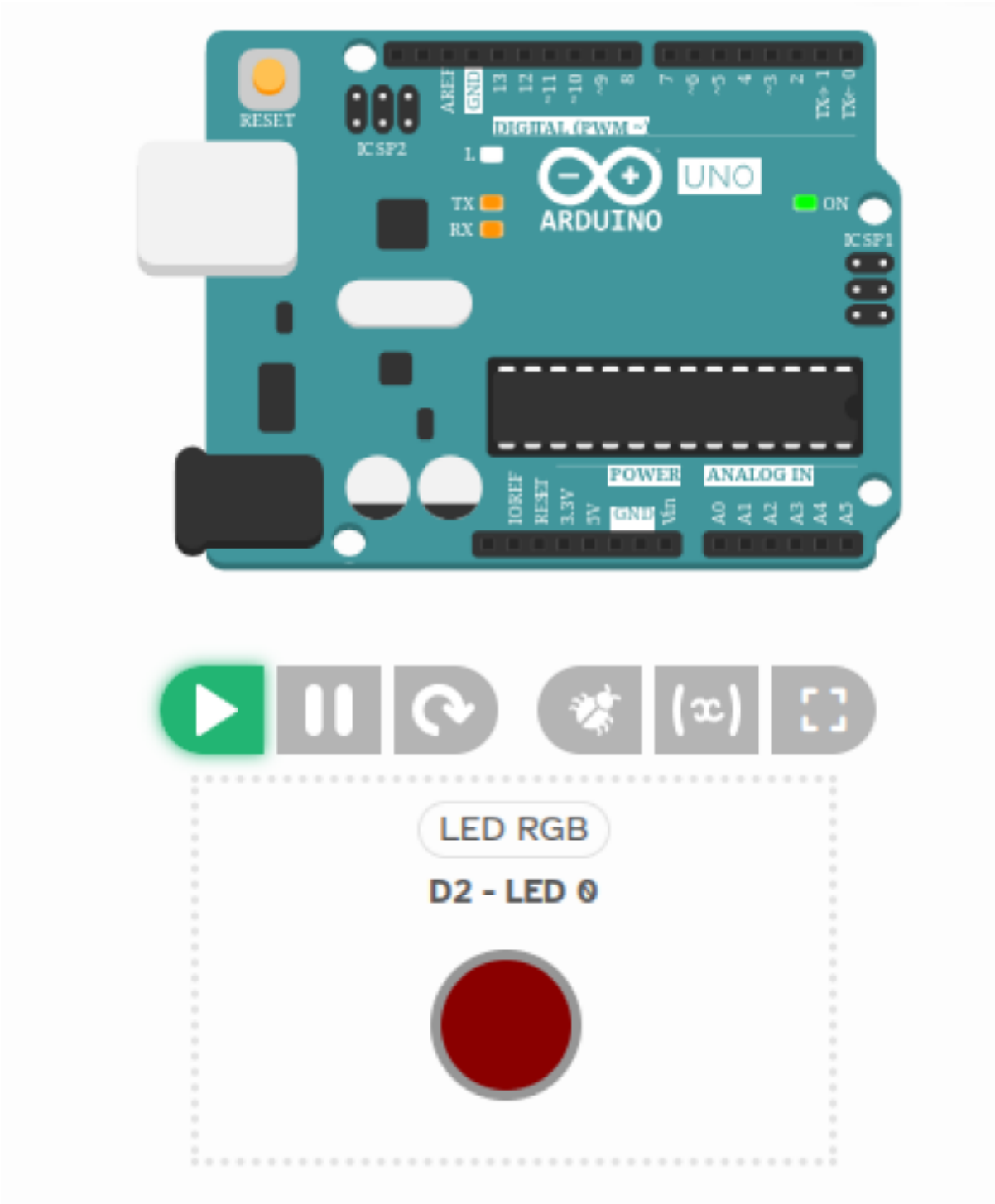
  tempol = 400;
}

void loop()
{
  ir = 0;
  iv = 0;
  ib = 0;
  while (!(ir == 255)) {
    analogWrite(3, ir);
    analogWrite(5, 0);
    analogWrite(6, 0);
    ir += (ir + 1);
    delay(tempol); // Wait for tempol millisecond(s)
  }
  while (!(iv == 255)) {
    analogWrite(3, 0);
    analogWrite(5, iv);
    analogWrite(6, 0);
    iv += (iv + 1);
    delay(tempol); // Wait for tempol millisecond(s)
  }
  while (!(ib == 255)) {
    analogWrite(3, 0);
    analogWrite(5, 0);
    analogWrite(6, ib);
    ib += (ib + 1);
    delay(tempol); // Wait for tempol millisecond(s)
  }
  for (counter = 0; counter < 1; ++counter) {
```

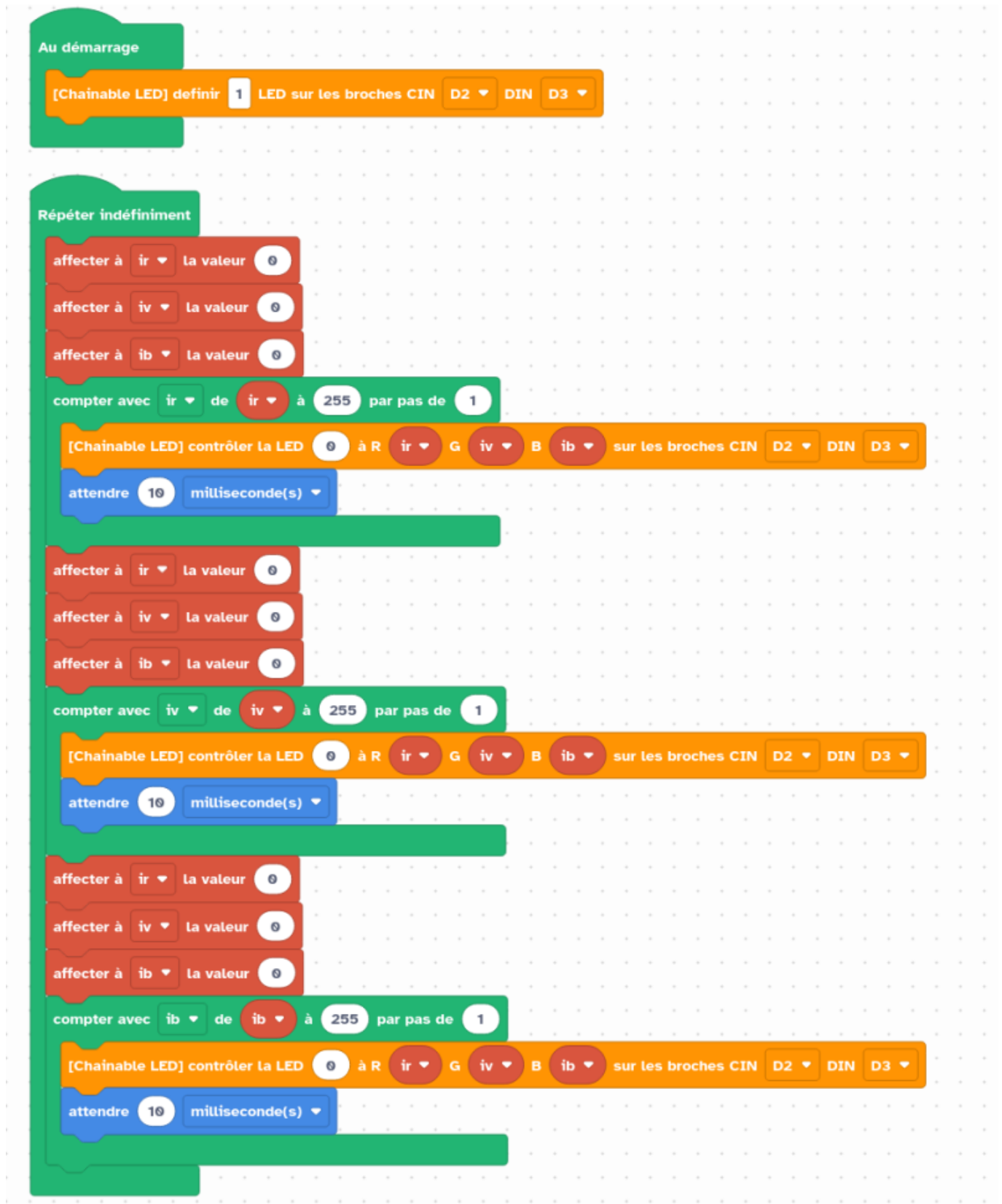
```
Serial.println("Rose");  
ir += 255;  
iv += 0;  
ib += 255;  
analogWrite(3, ir);  
analogWrite(5, iv);  
analogWrite(6, ib);  
delay(4000); // Wait for 4000 millisecond(s)  
ir += 0;  
iv += 0;  
ib += 0;  
}  
}
```

# Arduino RVB-Grove Vittascience

## Plan



Code Mode Block



## Code C++

[arduinoRVB\\_VTS\\_001.ino](#)

```
#include <ChainableLED.h>

#define PIN_CHAINABLE_LED_DIN_3 3
```

```
#define PIN_CHAINABLE_LED_CIN_2 2
#define CHAINABLE_LED_COUNT_2 1

ChainableLED RGBLed_2(PIN_CHAINABLE_LED_CIN_2, PIN_CHAINABLE_LED_DIN_3,
CHAINABLE_LED_COUNT_2);

int ir;
int iv;
int ib;

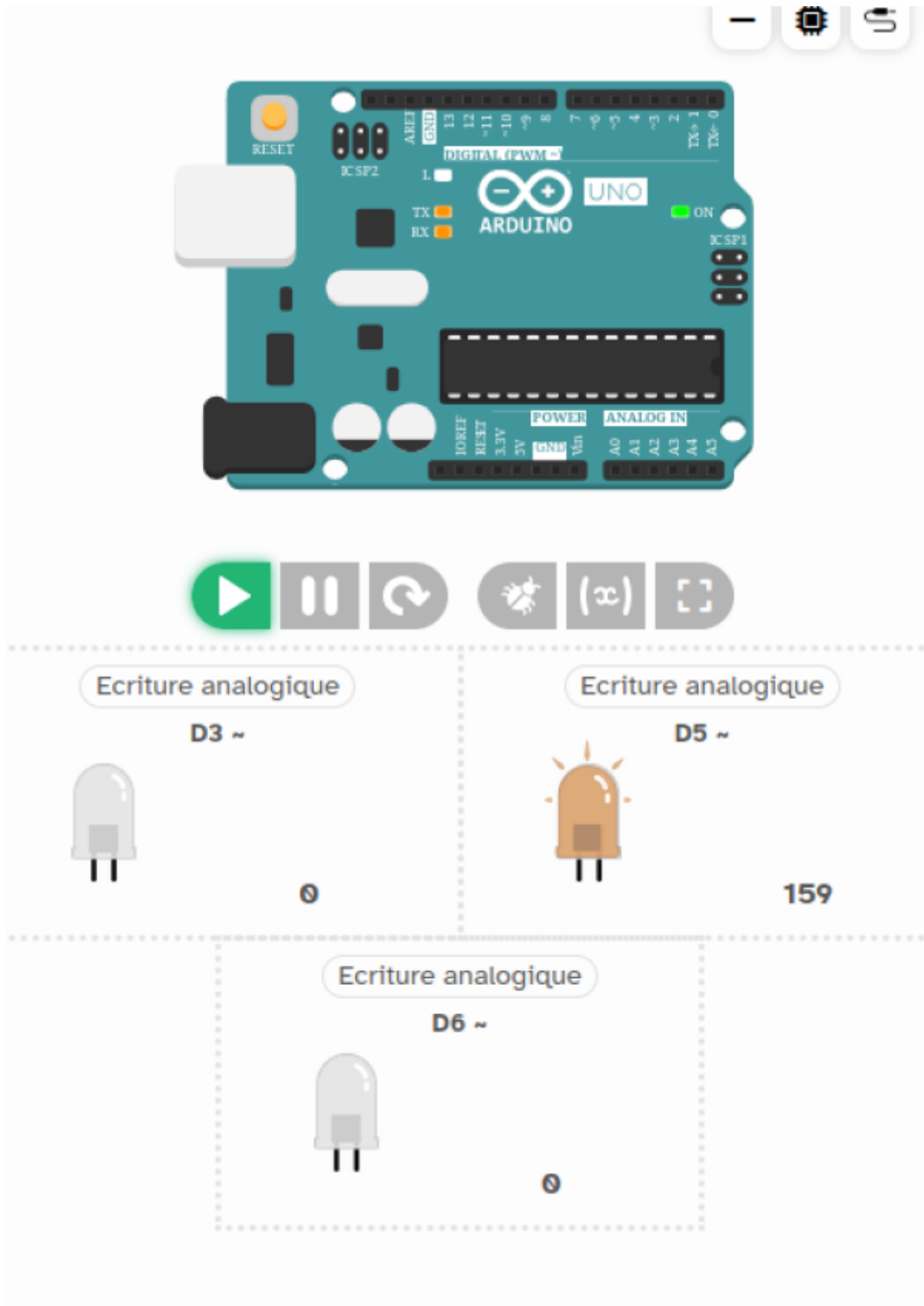
void setup() {
  pinMode(PIN_CHAINABLE_LED_DIN_3, OUTPUT);
  pinMode(PIN_CHAINABLE_LED_CIN_2, OUTPUT);
  RGBLed_2.init();
}

void loop() {
  ir = 0;
  iv = 0;
  ib = 0;
  int ir_inc = 1;
  if (ir > 255) {
    ir_inc = -ir_inc;
  }
  for (ir = ir;
        ir_inc >= 0 ? ir <= 255 : ir >= 255;
        ir += ir_inc) {
    RGBLed_2.setColorRGB(0, ir, iv, ib);
    delay(10);
  }
  ir = 0;
  iv = 0;
  ib = 0;
  int iv_inc = 1;
  if (iv > 255) {
    iv_inc = -iv_inc;
  }
  for (iv = iv;
        iv_inc >= 0 ? iv <= 255 : iv >= 255;
        iv += iv_inc) {
    RGBLed_2.setColorRGB(0, ir, iv, ib);
    delay(10);
  }
  ir = 0;
  iv = 0;
  ib = 0;
  int ib_inc = 1;
  if (ib > 255) {
    ib_inc = -ib_inc;
  }
  for (ib = ib;
```

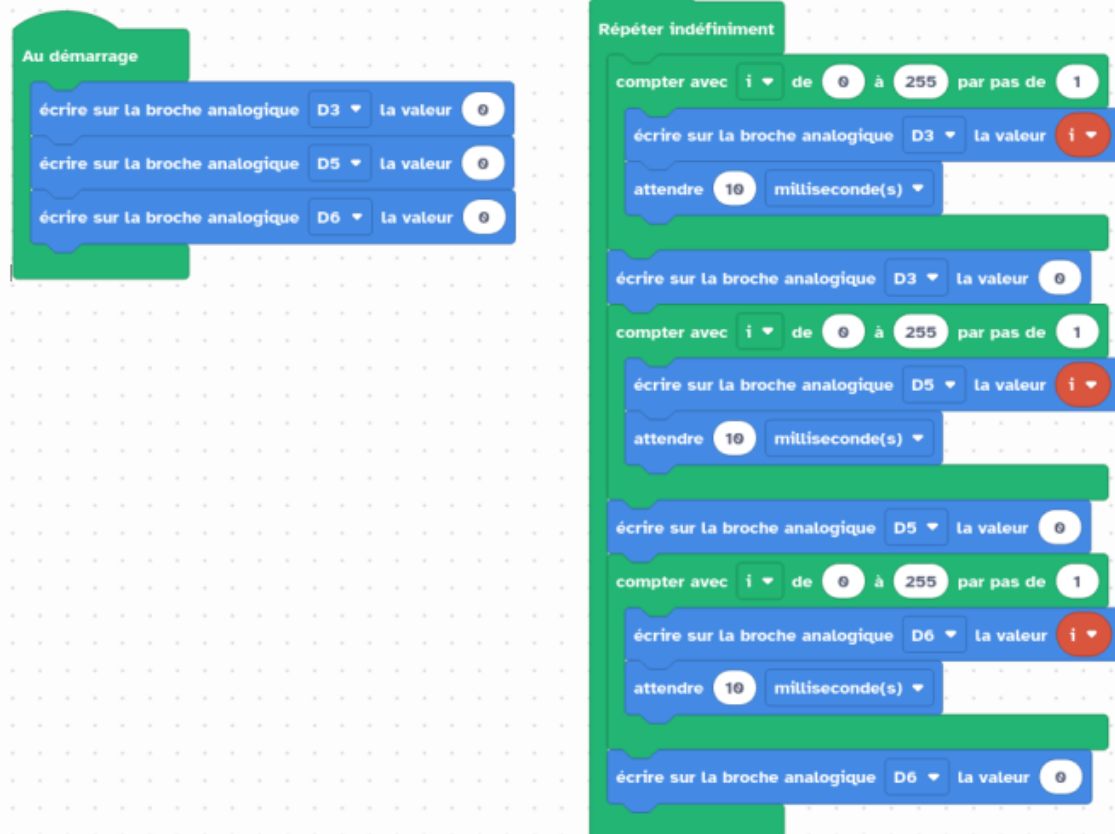
```
    ib_inc >= 0 ? ib <= 255 : ib >= 255;  
    ib += ib_inc) {  
    RGBLed_2.setColorRGB(0, ir, iv, ib);  
    delay(10);  
  }  
}
```

## Arduino RVB Cathode commune

### Plan



## Code block



## Code C++

arduinoRVBCatC.ino

```
int i;

void setup() {
  pinMode(3, OUTPUT);
  pinMode(5, OUTPUT);
  pinMode(6, OUTPUT);
  analogWrite(3, 0);
  analogWrite(5, 0);
  analogWrite(6, 0);
}

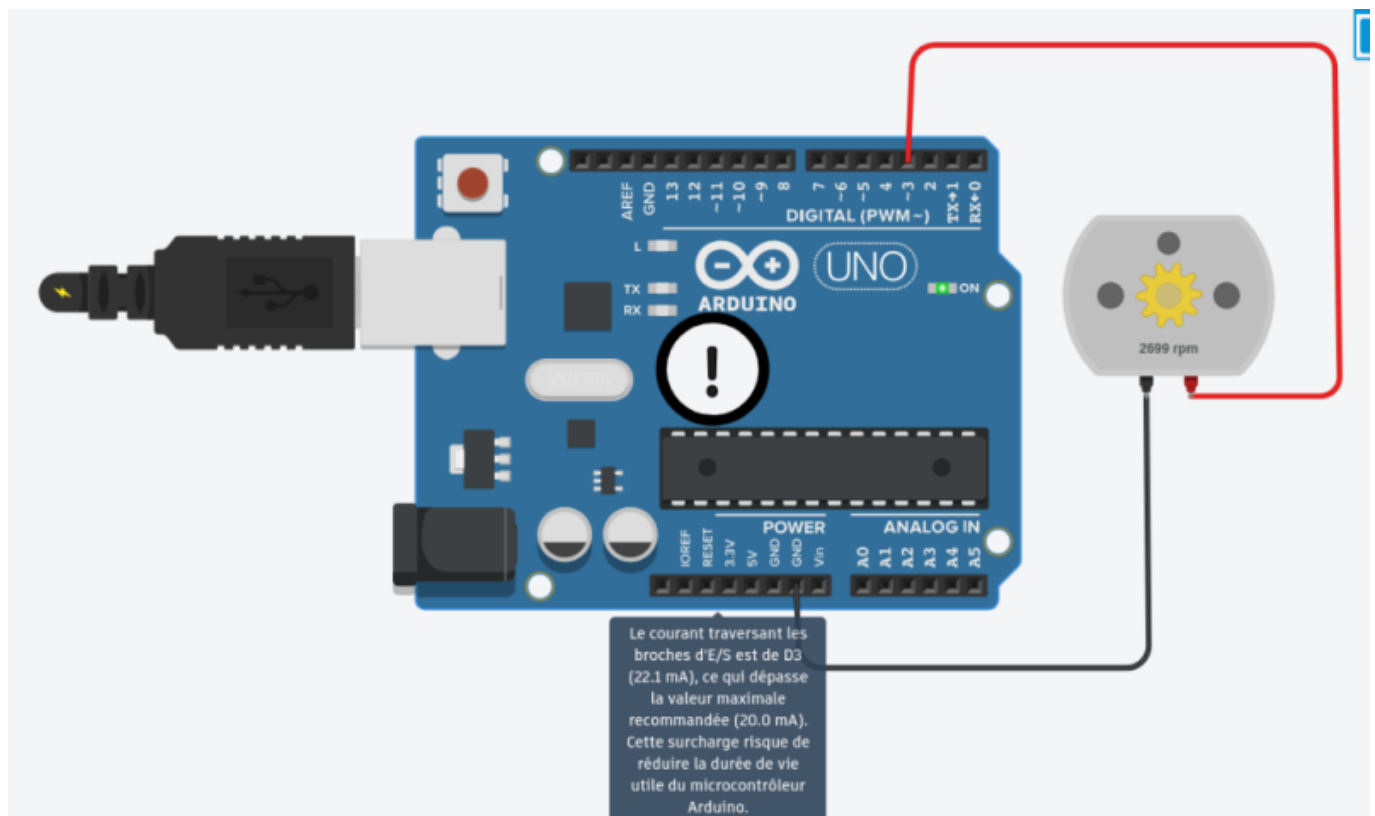
void loop() {
  for (i = 0; i <= 255; i++) {
    analogWrite(3, i);
    delay(10);
  }
  analogWrite(3, 0);
  for (i = 0; i <= 255; i++) {
    analogWrite(5, i);
    delay(10);
  }
  analogWrite(5, 0);
  for (i = 0; i <= 255; i++) {
    analogWrite(6, i);
    delay(10);
  }
  analogWrite(6, 0);
}
```

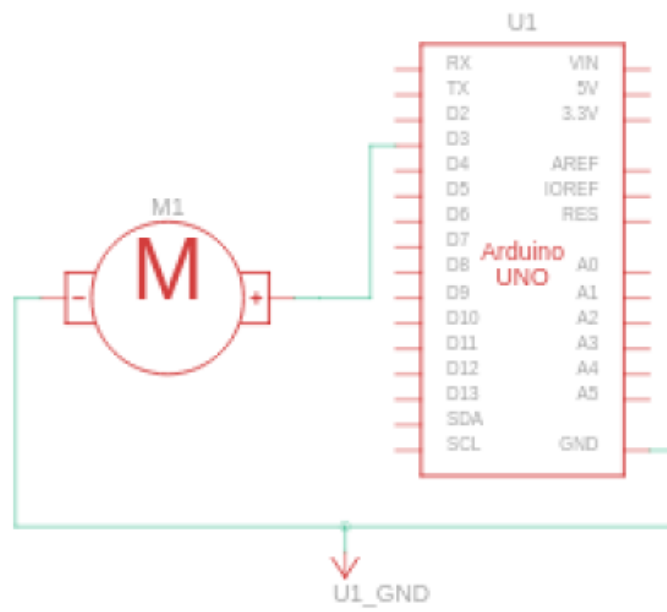
```
    delay(10);  
}  
analogWrite(5, 0);  
for (i = 0; i <= 255; i++) {  
    analogWrite(6, i);  
    delay(10);  
}  
analogWrite(6, 0);  
}
```

# Arduino Moteur CC 1 sens

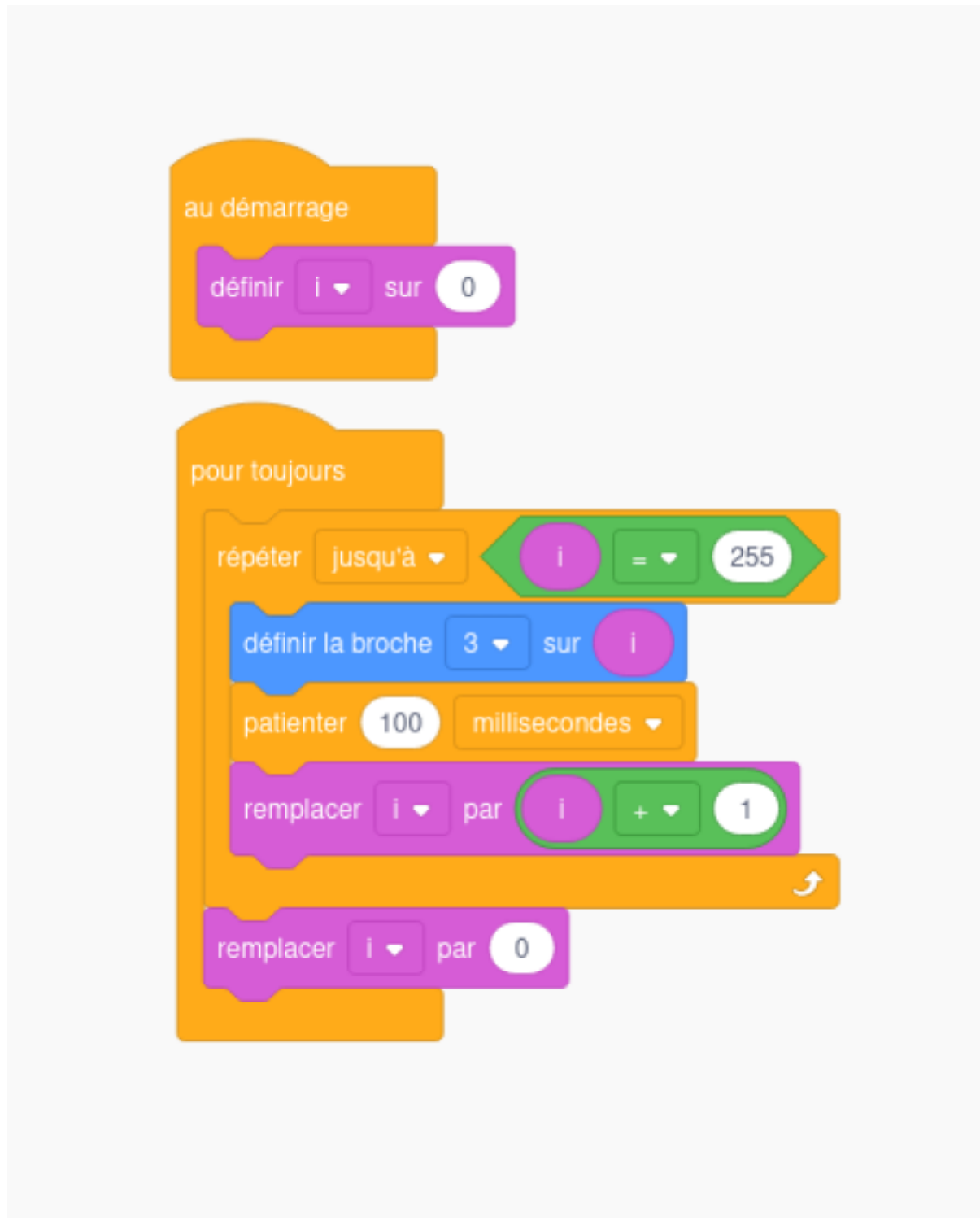
## Plans

### Moteur en direct sur sortie Arduino





### Code Block

**code C++****Arduinomoteurdirect.ino**

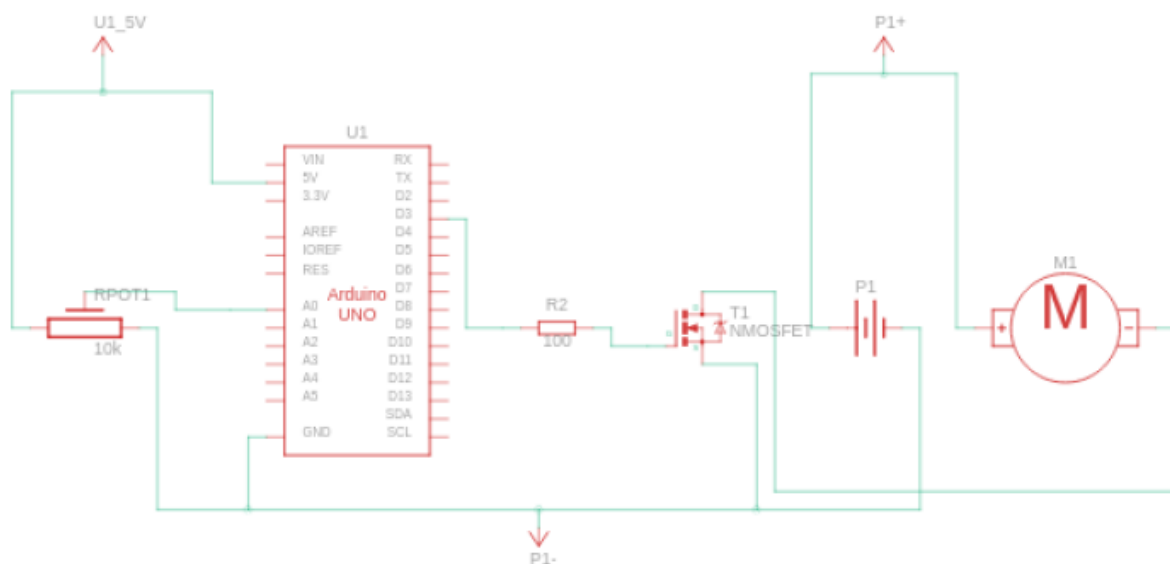
```
// C++ code
//
int i = 0;

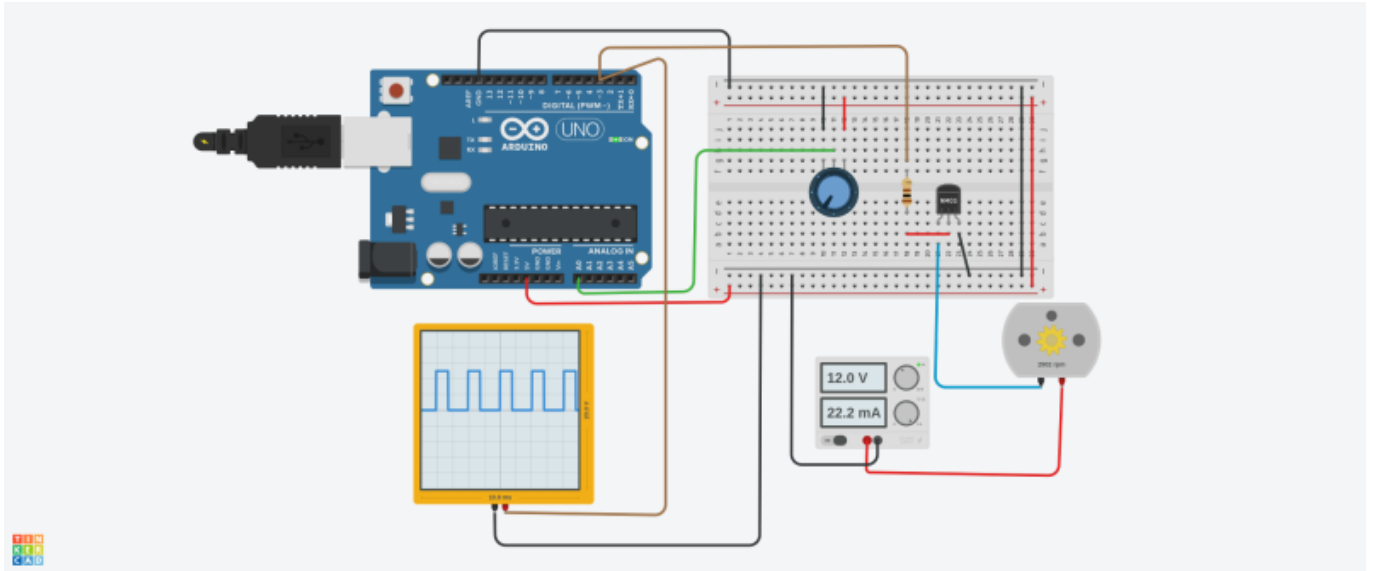
void setup()
{
  pinMode(3, OUTPUT);
}
```

```
i = 0;
}

void loop()
{
  while (!(i == 255)) {
    analogWrite(3, i);
    delay(100); // Wait for 100 millisecond(s)
    i += (i + 1);
  }
  i += 0;
}
```

### Avec commande moteur via Mosfet





## Code C++

### ArduinoMoteurViaMosfet.ino

```

/*
Faire varier la vitesse du moteur en fonction de la position et donc de
la valeur du potentiometre
*/

int motorPin = 3;      // Controle de vitesse PWM vers la gate du
Mofset
int potarPin=0;        // on branche un potentiomètre sur la PIn A0
int sensorValue=0;     // la valeur entre 0 et 1023 déduite de la
position du potentiomètre
int outputValue=0;     // la valeur entre 0 et 255 que l'on va
utiliser pour régler la vitesse du moteur

// Executee une seule fois

void setup() {
  // initialiser la communication serie
  Serial.begin(19200);
  pinMode(motorPin, OUTPUT); // motorPin est utilisee en sortie
}

// executee en boucle
void loop() {
  // lire la valeur en entrée de la Pin A0
  sensorValue = analogRead(potarPin);
  // afficher sur le moniteur série la valeur lue, pas obligatoire
  mais toujours intéressant
  Serial.println(sensorValue);
  // conversion de la valeur sensorvalue (qui va de 0 à 1023) en une
  valeur entre 0 et 255, outputvalue
  outputValue = map(sensorValue, 0, 1023, 0, 255);
}

```

```
// outputvalue permet de controler la vitesse du moteur  
analogWrite(motorPin,outputValue ); // valeur de 0 à 255  
delay(100);  
}
```

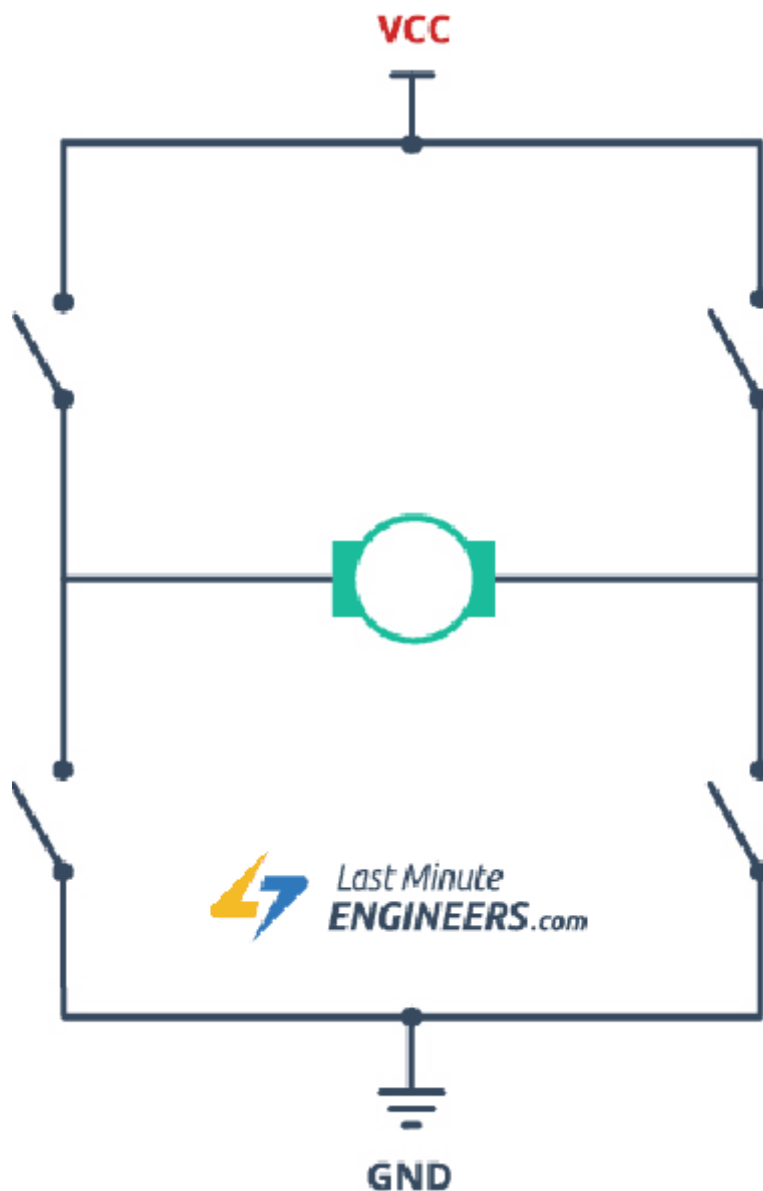
# Arduino moteur 2 sens Via L293D

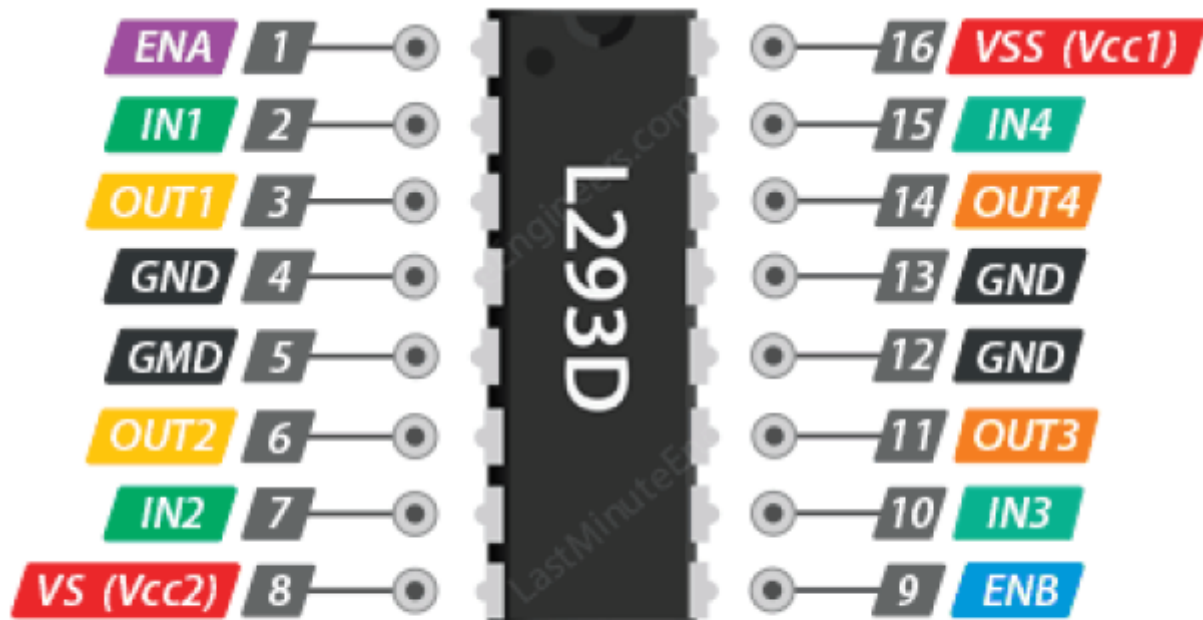
Doc L293D

Notice technique L293D EN

[Tuto l293d et Arduino](#)

[l293d](#)

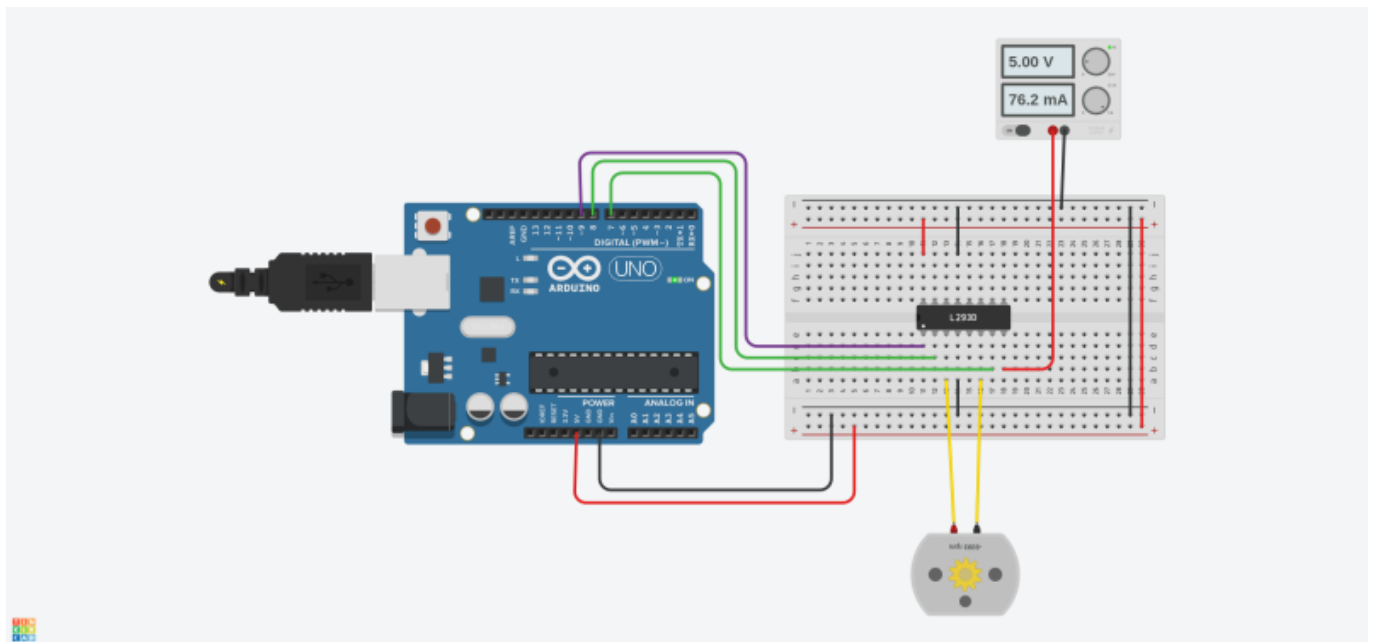


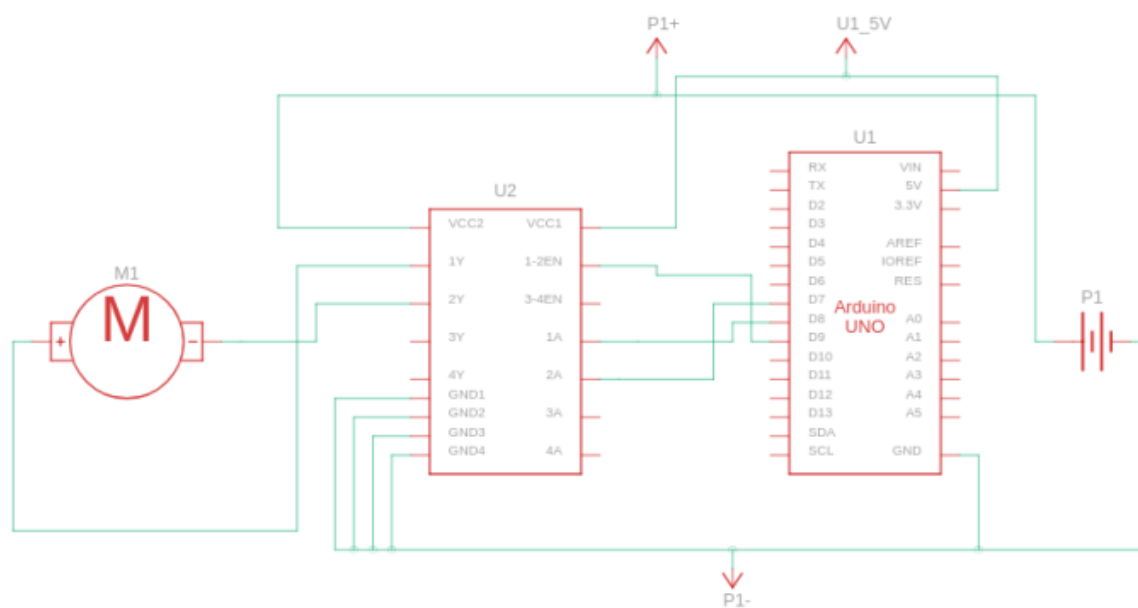


L293D Pinout



## Plans





### Code Block



**Code C++**

## arduinomoteurL293D.ino

```
// Motor A connections
int enA = 9;
int in1 = 8;
int in2 = 7;

void setup() {
  // Set all the motor control pins to outputs
  pinMode(enA, OUTPUT);
  pinMode(in1, OUTPUT);
  pinMode(in2, OUTPUT);

  // Turn off motors - Initial state
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
}

void loop() {
  directionControl();
  delay(1000);
  speedControl();
  delay(1000);
}

// This function lets you control spinning direction of motors
void directionControl() {
  // Set motors to maximum speed
  digitalWrite(enA, HIGH);

  // Turn on motor A
  digitalWrite(in1, HIGH);
  digitalWrite(in2, LOW);
  delay(2000);

  // Now change motor directions
  digitalWrite(in1, LOW);
  digitalWrite(in2, HIGH);
  delay(2000);

  // Turn off motors
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
}
```

```
// This function lets you control speed of the motors
void speedControl() {
    // Turn on motors
    digitalWrite(in1, LOW);
    digitalWrite(in2, HIGH);

    // Accelerate from zero to maximum speed
    for (int i = 0; i < 256; i++) {
        analogWrite(enA, i);
        delay(20);
    }

    // Decelerate from maximum speed to zero
    for (int i = 255; i >= 0; --i) {
        analogWrite(enA, i);
        delay(20);
    }

    // Now turn off motors
    digitalWrite(in1, LOW);
    digitalWrite(in2, LOW);
}
```

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