UNIVERSITI PENDIDIKAN SULTAN IDRIS
اونيۏرسيتي ڤندidikan سلطان ادريس
SULTAN IDRIS EDUCATION UNIVERSITY

FACULTY OF TECHNICAL & VOCATIONAL
FTV
Leading TVET Global Educators

RISE@UPSI
Research, Innovation, Society and Entrepreneurship

MODUL PEMBELAJARAN ELEKTRONIK DENGAN KEFUNGSIAN PENDERIA

2.0 PENDERIA /SENSOR

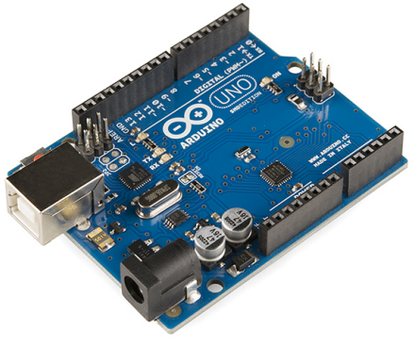
2.2 PHOTORESISTOR SENSOR

MULAKAN

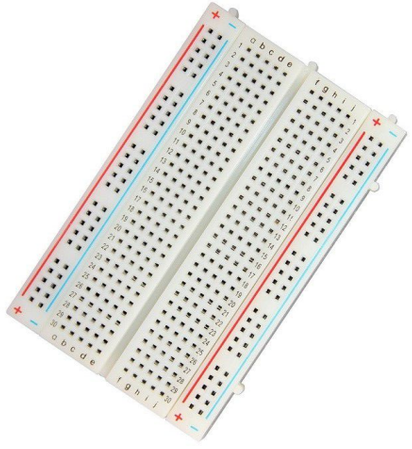
Di sediakan oleh Amin, Dr Irdayanti

STEP 1 :
SEDIAKAN SEMUA KOMPONEN

4 RED LED

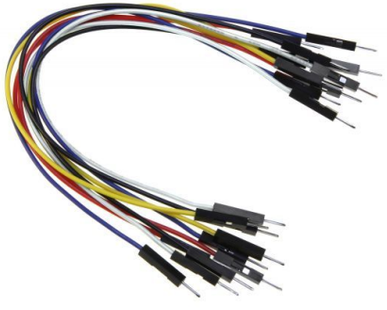


ARDUINO UNO R3



BREADBOARD

5 1KOHM RESISTOR

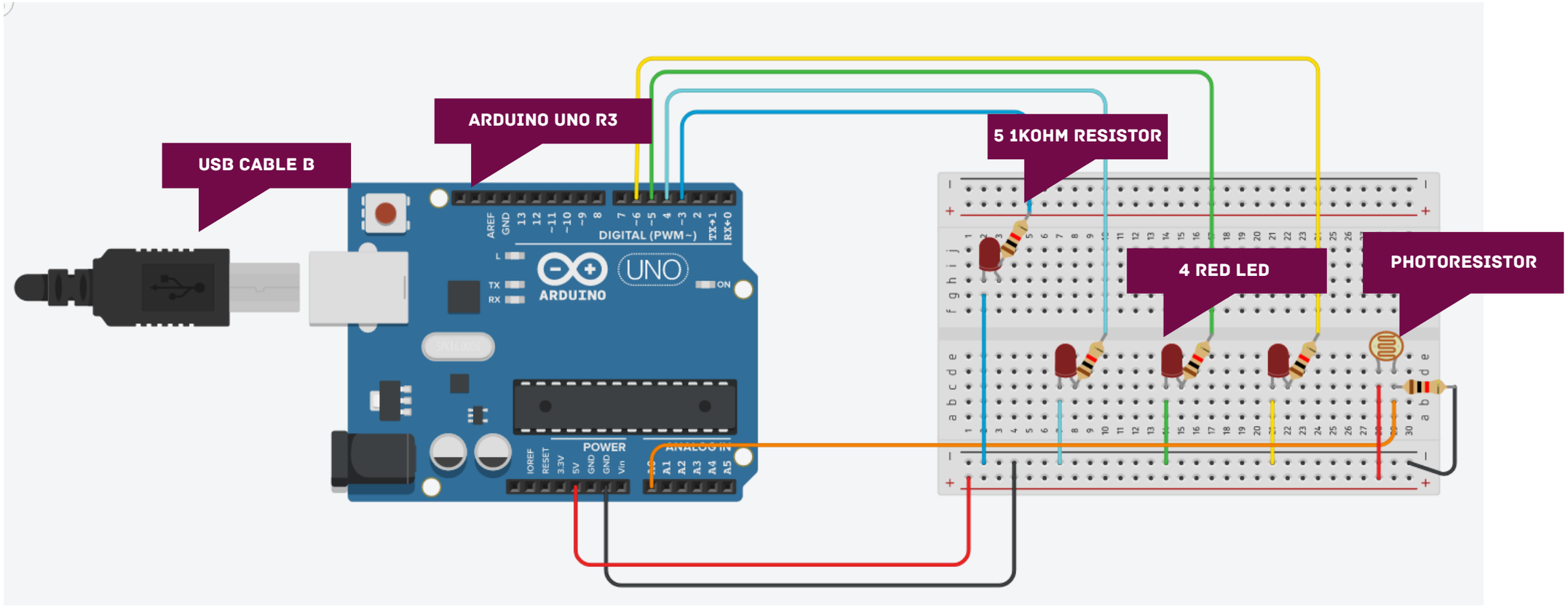


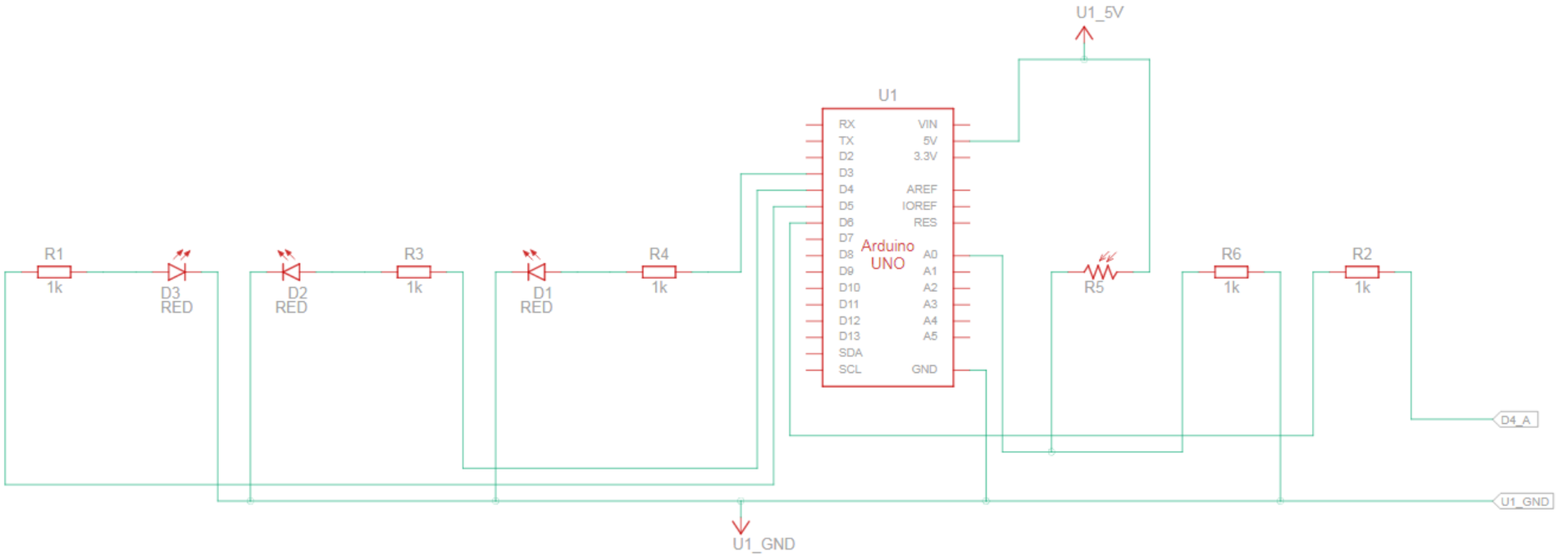
MALE TO MALE / FEMALE TO MALE JUMPER WIRES-10 PIECES

USB CABLE B

PHOTORESISTOR

STEP 2 :
GAMBAR RAJAH SAMBUNGAN


USB CABLE B
ARDUINO UNO R3
5 1KOHM RESISTOR
4 RED LED
PHOTORESISTOR
DIGITAL (PWM~)
POWER
ANALOG IN
ARDUINO
UNO



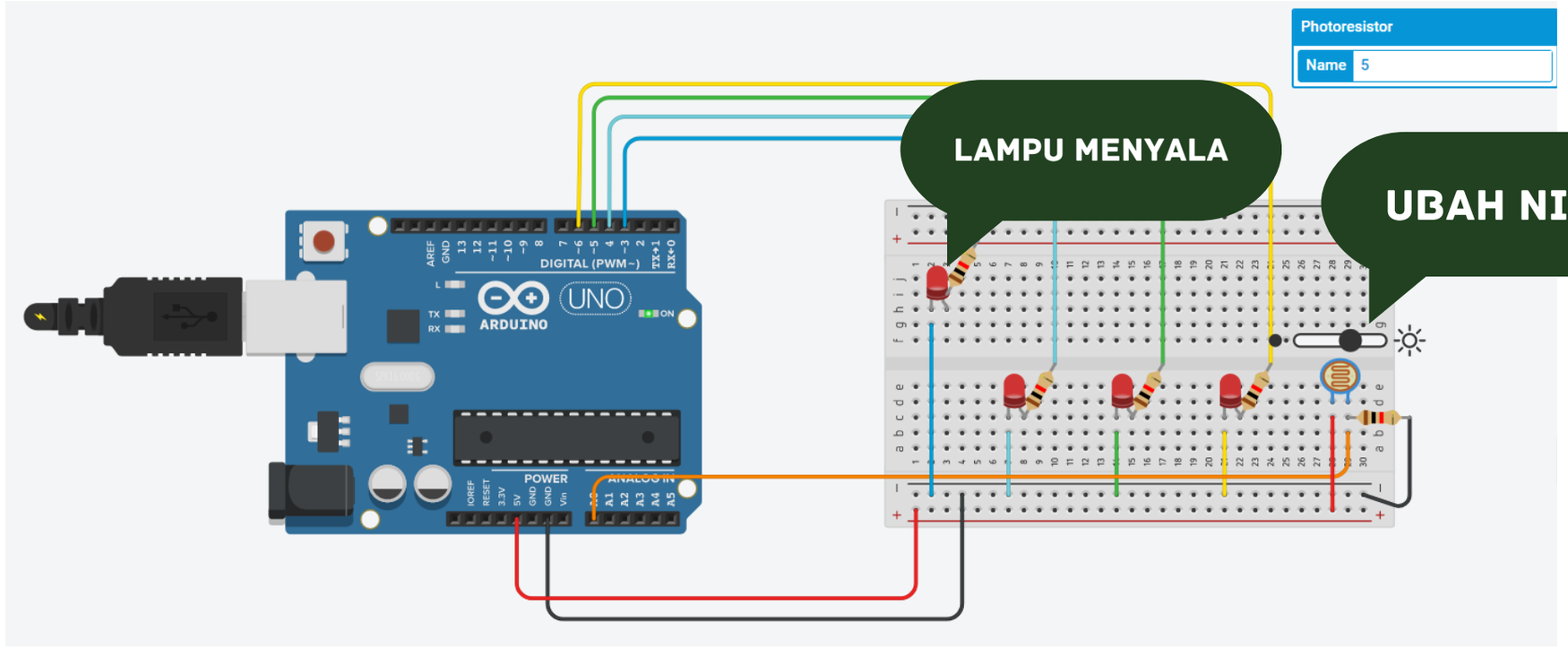
PANDANGAN SKEMATIK

STEP 3 :
CODDING ARDUINO UNO

```
const int analogIn = A0;
int photoresistorOutput = 0;
// Defining Variables
double photo = 0;
int LEDa = 3;
int LEDb = 4;
int LEDc = 5;
int LEDd = 6;

void setup()
{
   Serial.begin(9600);
   pinMode(LEDa, OUTPUT);
   pinMode(LEDb, OUTPUT);
   pinMode(LEDc, OUTPUT);
   pinMode(LEDd, OUTPUT);
   pinMode(photo,INPUT);
}

void loop()
{
  int value = analogRead(analogIn);
  if(value< 150){
   Serial.print("Photoresistor = ");
   Serial.print(value); // display temperature value
   Serial.print("");
   Serial.println();
    digitalWrite(LEDa,HIGH);
    digitalWrite(LEDb,LOW);
    digitalWrite(LEDc,LOW);
    digitalWrite(LEDd,LOW);
    delay(1000);
  }
  else if(value <300 && value > 150){
   Serial.print("Photoresistor = ");
   Serial.print(value); // display temperature value
   Serial.print("");
   Serial.println();
    digitalWrite(LEDa,HIGH);
    digitalWrite(LEDb,HIGH);
    digitalWrite(LEDc,LOW);
    digitalWrite(LEDd,LOW);
    delay(1000);
  }
  else if(value <550 && value > 300){
    Serial.print("Photoresistor = ");
      Serial.print(value);  //  display  temperature
value
   Serial.print("");
   Serial.println();
    digitalWrite(LEDa,HIGH);
    digitalWrite(LEDb,HIGH);
    digitalWrite(LEDc,HIGH);
    digitalWrite(LEDd,LOW);
    delay(1000);

  }
  else if(value <900 && value > 550){
    Serial.print("Photoresistor = ");
      Serial.print(value);  //  display  temperature
value
   Serial.print("");
   Serial.println();
    digitalWrite(LEDa,HIGH);
    digitalWrite(LEDb,HIGH);
    digitalWrite(LEDc,HIGH);
    digitalWrite(LEDd,HIGH);
    delay(1000);
  }
}
```

TEXT

STEP 4 :
SIMULASI



Serial Monitor

```
Photoresistor = 6
Photoresistor = 6
Photoresistor = 613
Photoresistor = 613
Photoresistor = 613
Photoresistor = 613
Photoresistor = 613
```

LINK TINKERCAD

ENTER