UNIVERSITI PENDIDIKAN SULTAN IDRIS
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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

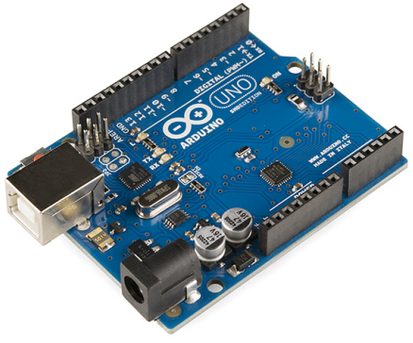
2.3 GAS SENSOR

MULAKAN

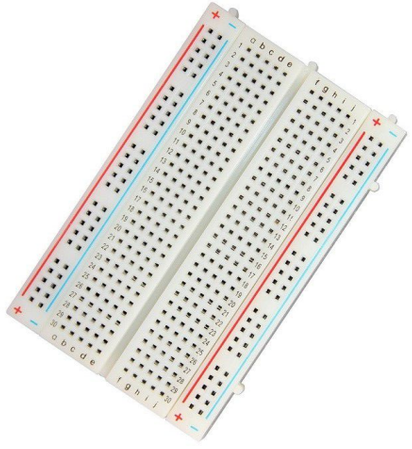
Di sediakan oleh Amin, Dr Irdayanti

STEP 1 :
SEDIAKAN SEMUA KOMPONEN

4 RED LED

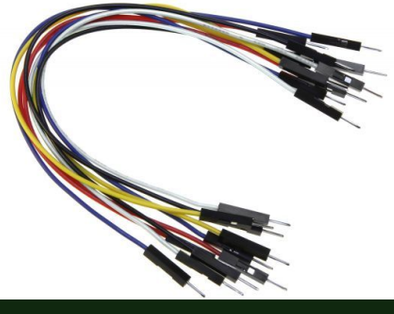


ARDUINO UNO R3



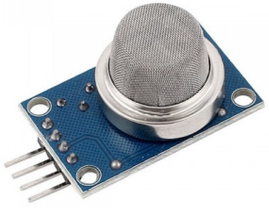
BREADBOARD

5 1KOHM RESISTOR



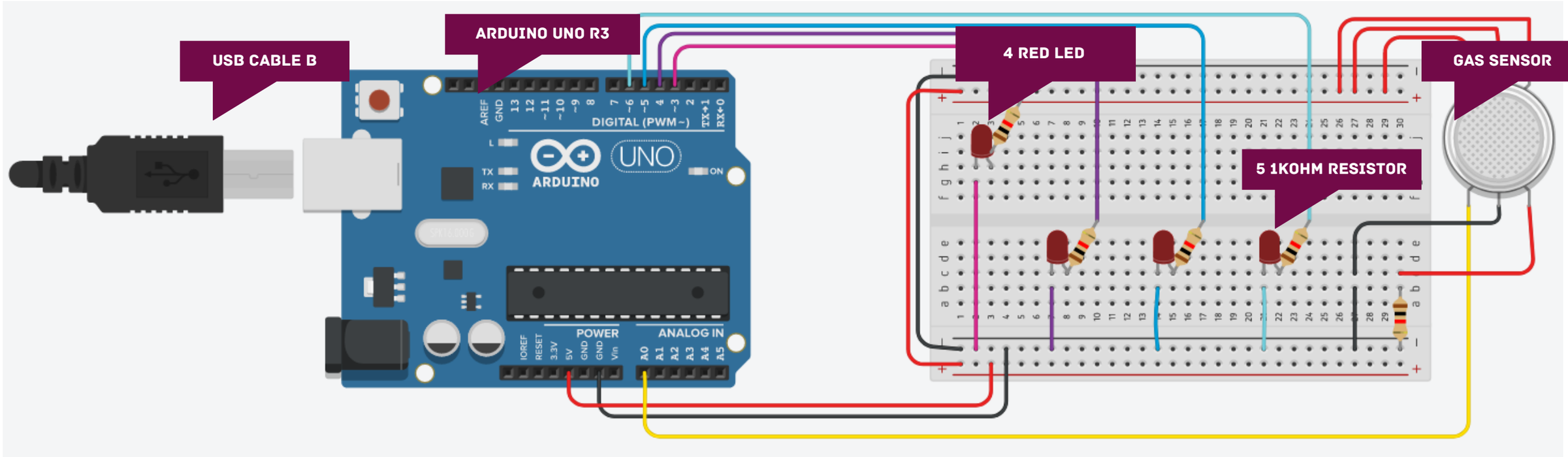
MALE TO MALE / FEMALE TO MALE JUMPER WIRES-10 PIECES

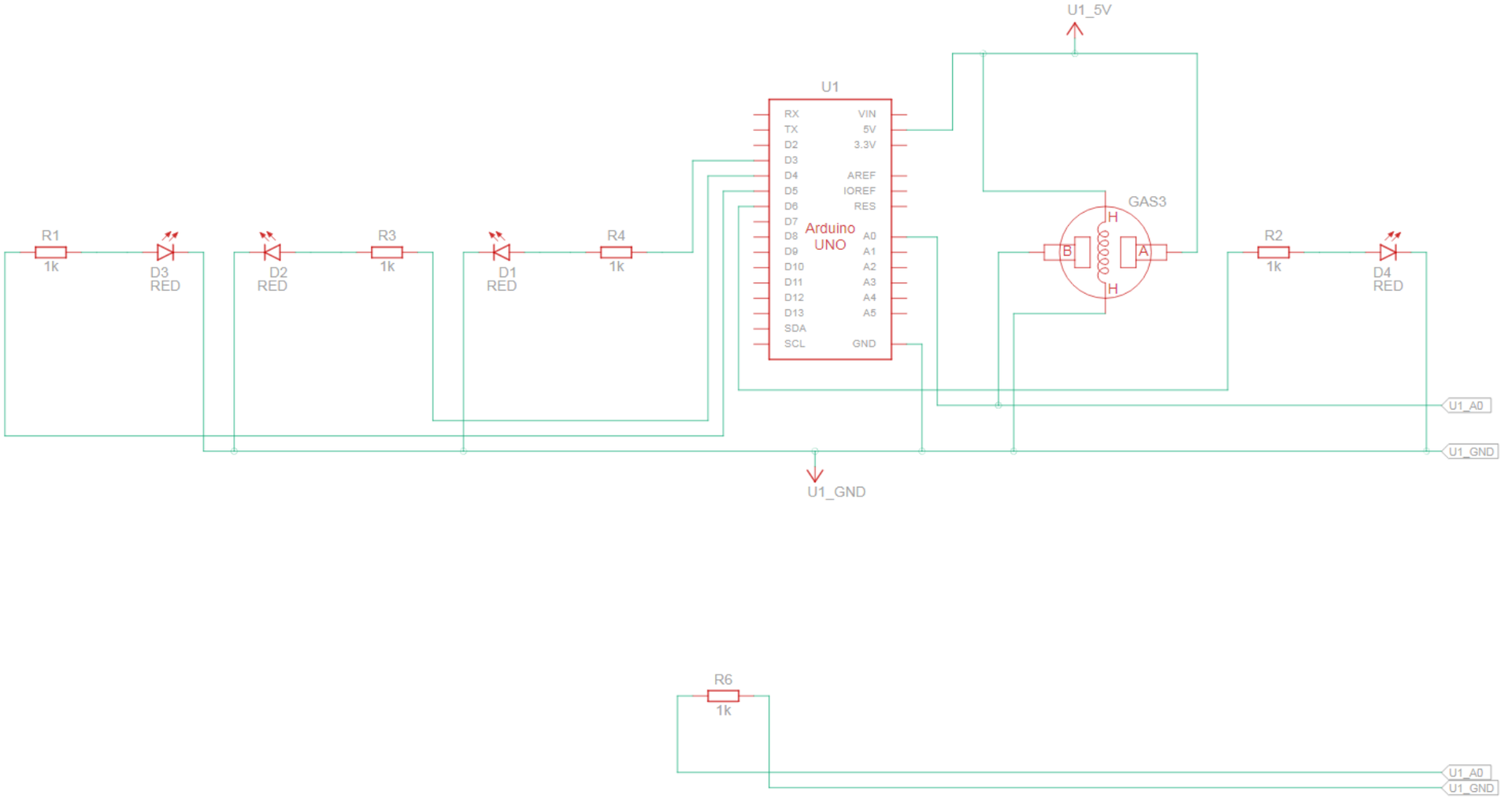
USB CABLE B



GAS SENSOR

STEP 2 :
GAMBAR RAJAH SAMBUNGAN


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



PANDANGAN SKEMATIK

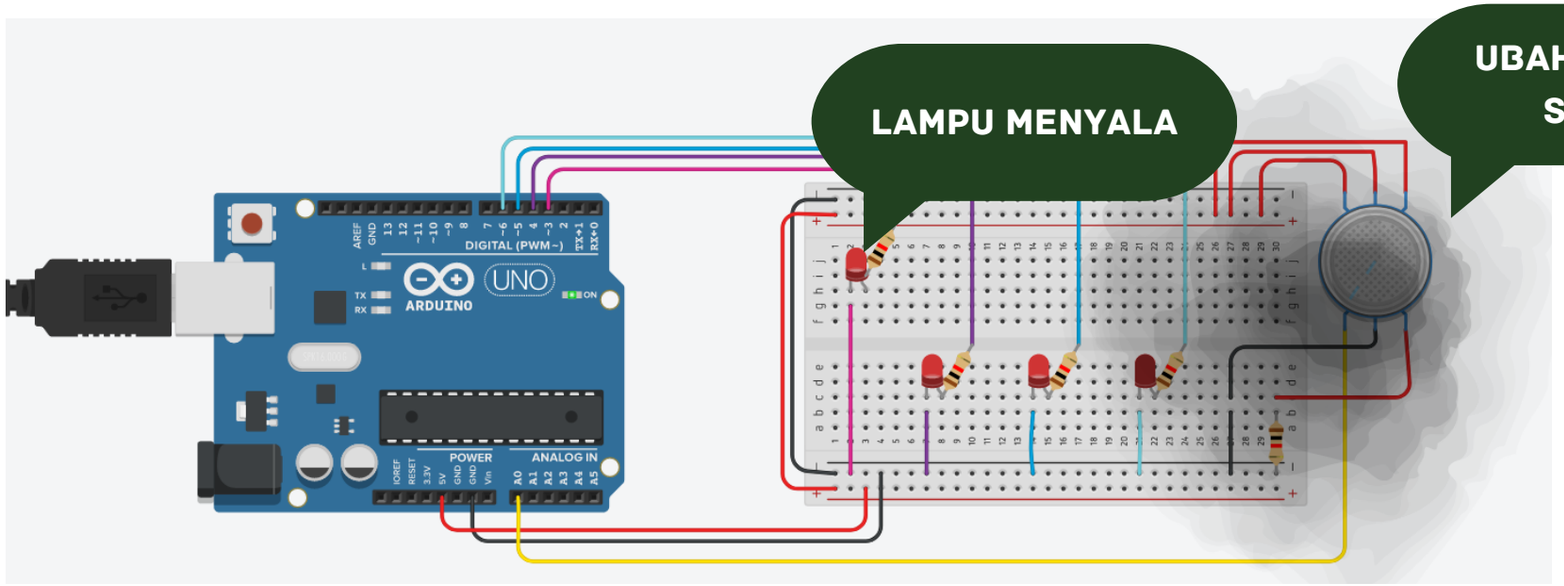
STEP 3 :
CODDING ARDUINO UNO

```
 const int analogIn = A0;
int gassensoraoutput = 0;
// Defining Variables
double gas = 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(gas,INPUT);
}

void loop()
{
  int value = analogRead(analogIn);
  if(value< 150){
   Serial.print("Gas sensor = ");
         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 <200 && value > 150){
 Serial.print("Gas sensor = ");
 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 <300 && value > 200){
  Serial.print("Gas sensor = ");
 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 <500 && value > 300){
    Serial.print("Gas sensor = ");
   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

```
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
Gas sensor = 354
```

LINK TINKERCAD

ENTER