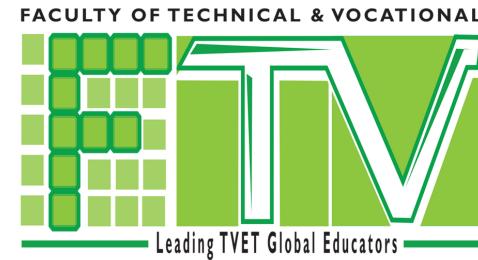




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RISE @UPSI  
Research, Innovation, Society and Entrepreneurship

## MODUL PEMBELAJARAN ELEKTRONIK DENGAN KEFUNGSIAN PENDERIA

### 2.0 PENDERIA /SENSOR

#### 2.6 LIGHT SENSOR

MULAKAN



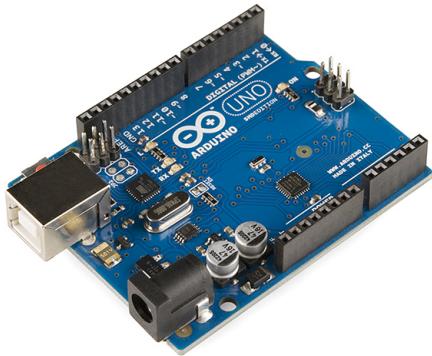
DI SEDIAKAN OLEH AMIN, DR IRDAYANTI

**STEP 1:**

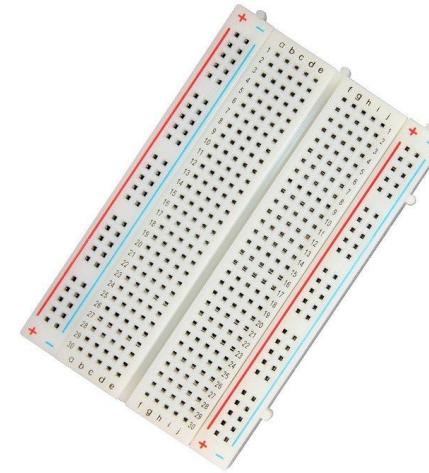
**SEDIAKAN SEMUA KOMPONEN**



4 RED LED



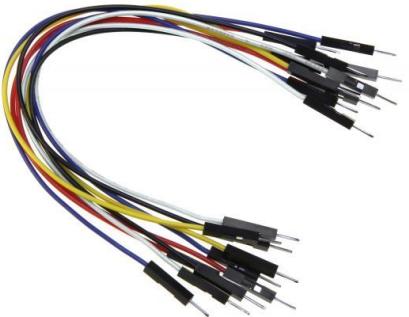
ARDUINO UNO R3



BREADBOARD



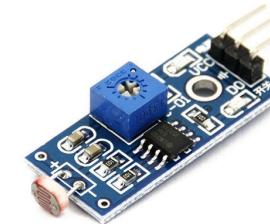
5 1KOHM  
RESISTOR



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



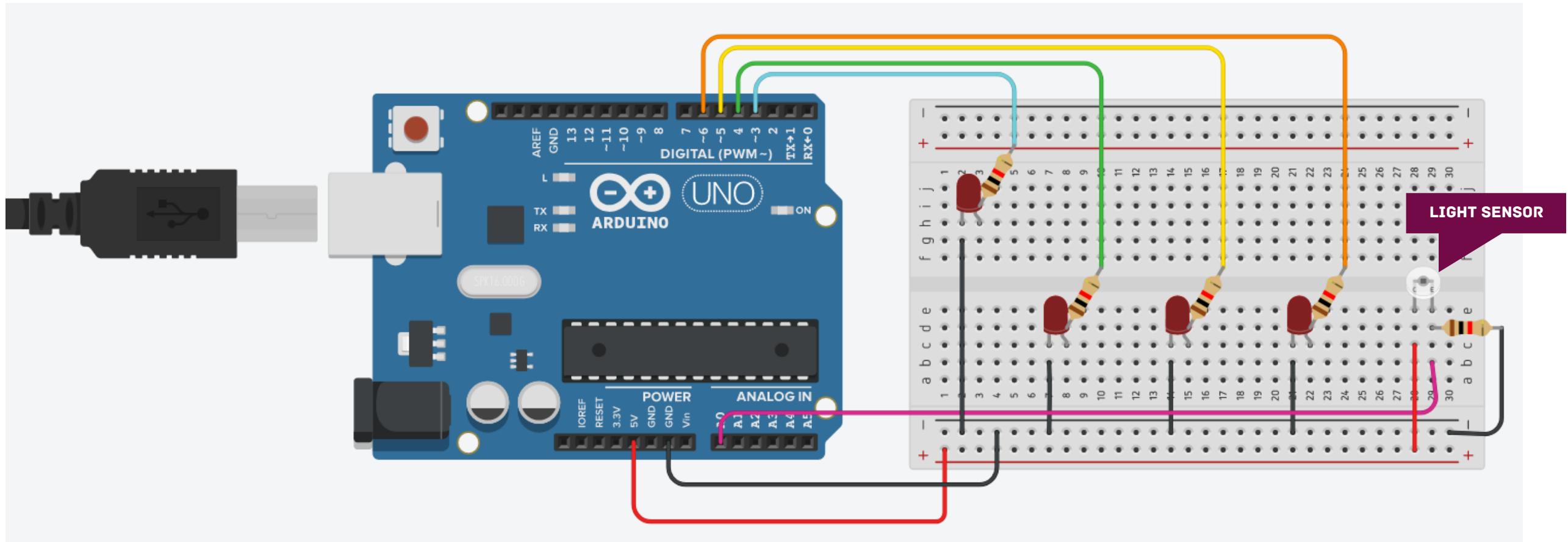
USB CABLE B

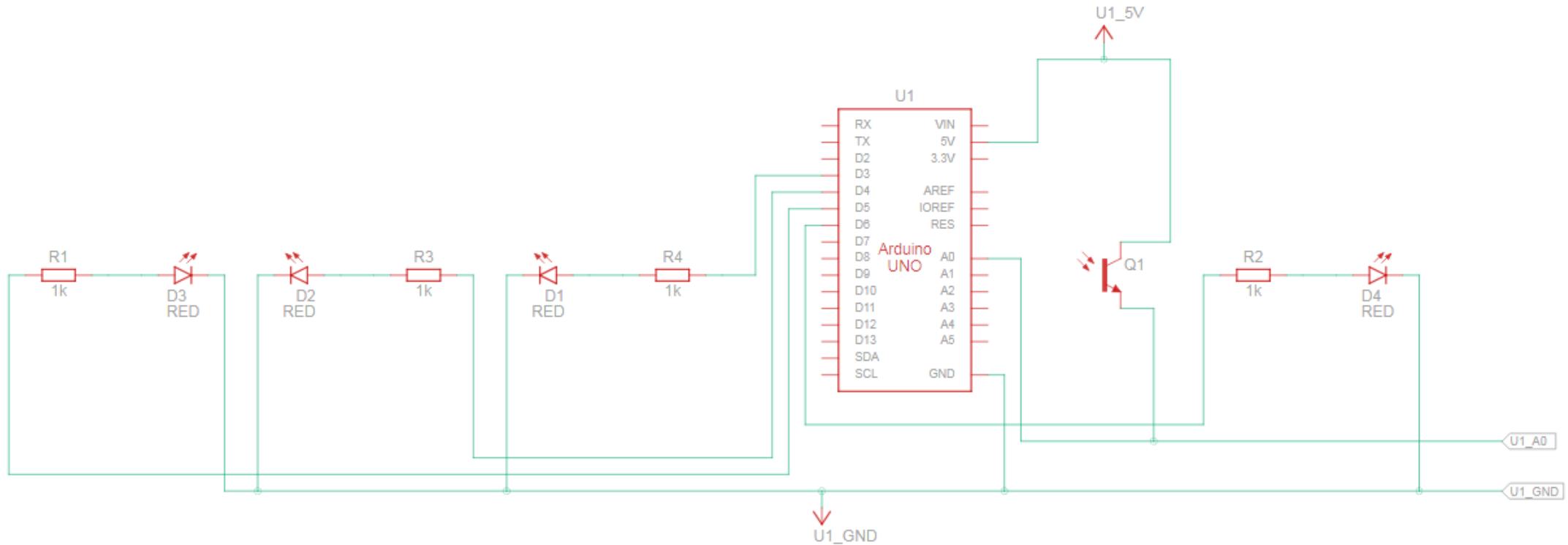


AMBIENT LIGHT SENSOR  
(PHOTOTRANSISTOR)

**STEP 2 :**

**GAMBAR RAJAH SAMBUNGAN**





## PANDANGAN SKEMATIK



# **STEP 3 :**

# **CODDING ARDUINO UNO**

```

const int analogIn = A0;
int lightOutput = 0;
// Defining Variables
double light = 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(light, INPUT);
}

void loop()
{
    int value = analogRead(analogIn);
    if(value< 150){
        Serial.print("light 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);
    }
}

```

```

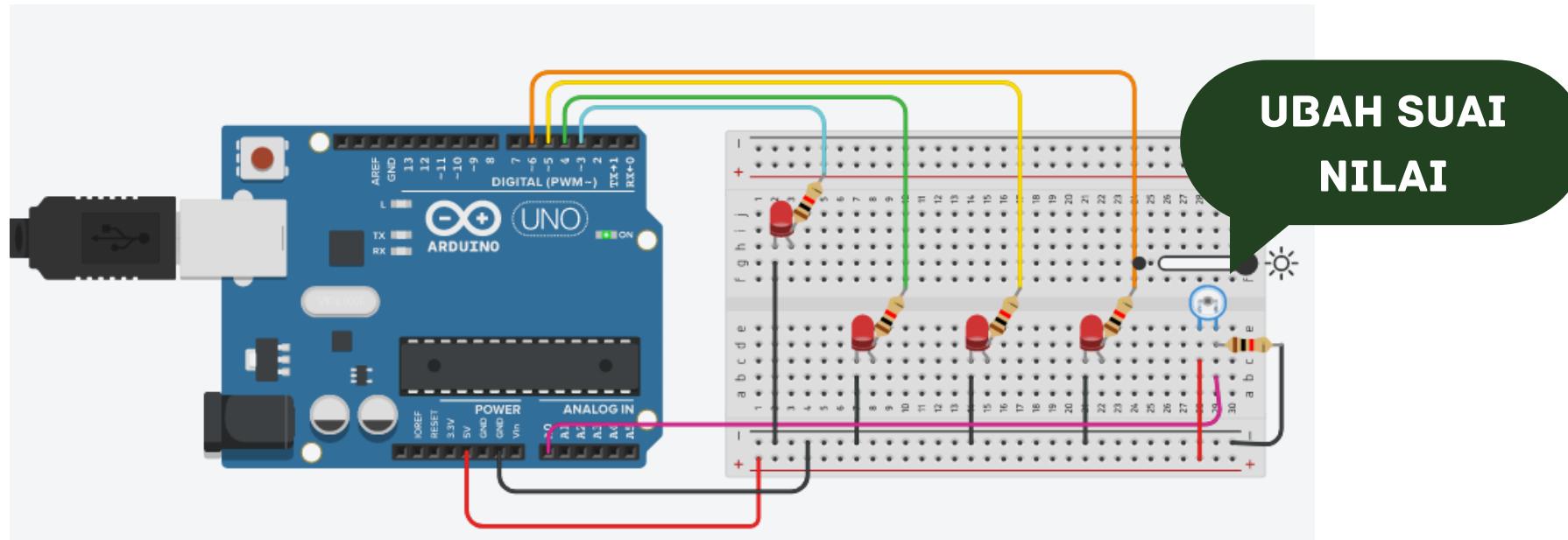
else if(value <300 && value > 150){
    Serial.print("light sensor = ");
    Serial.print(value); // display temperature value
    Serial.print(" ");
    Serial.println();
    digitalWrite(LEDa,HIGH);
    digitalWrite(LEDb,HIGH);
    digitalWrite(LEDc,LOW);
    digitalWrite(LEDd,LOW);
    delay(1000);
}
else if(value <400 && value > 300){
    Serial.print("Photlight 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 > 400){
    Serial.print("light 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);
}
}

```



# **STEP 4 :**

# **SIMULASI**



Serial Monitor

```
light sensor = 0
light sensor = 0
light sensor = 235
light sensor = 235
light sensor = 235
Photelight sensor = 377
Photelight sensor = 377
Photelight sensor = 377
Photelight sensor = 377
```

LINK  
TINKERCAD

**ENTER**