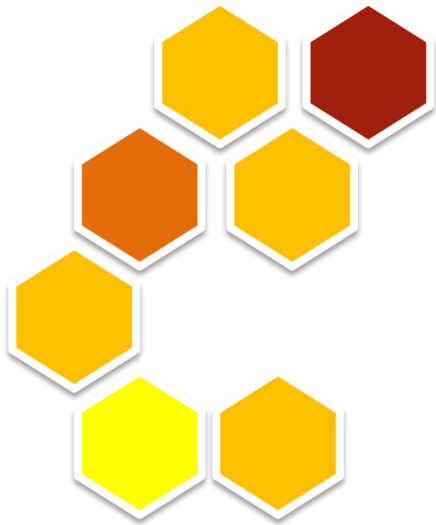


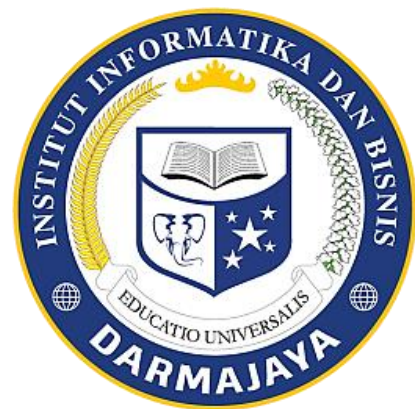
Bahan Ajar



Modul PEMROGRAMAN

Kode Matakuliah: SKO20411

C For Arduino



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**PROGRAM STUDI SISTEM KOMPUTER
FAKULTAS ILMU KOMPUTER
INSTITUT INFORMATIKA DAN BISNIS DARMAJAYA**

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JOB SHEET 14

Matrix (8x8)

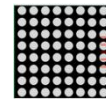
KOMPONEN



Breadboar

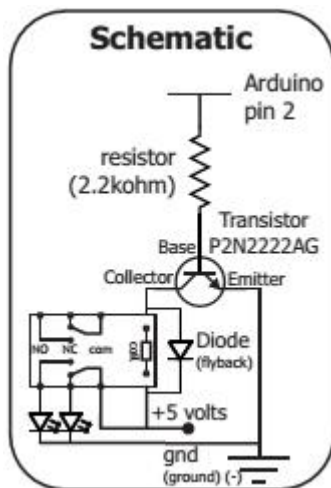


Kabel Jumper



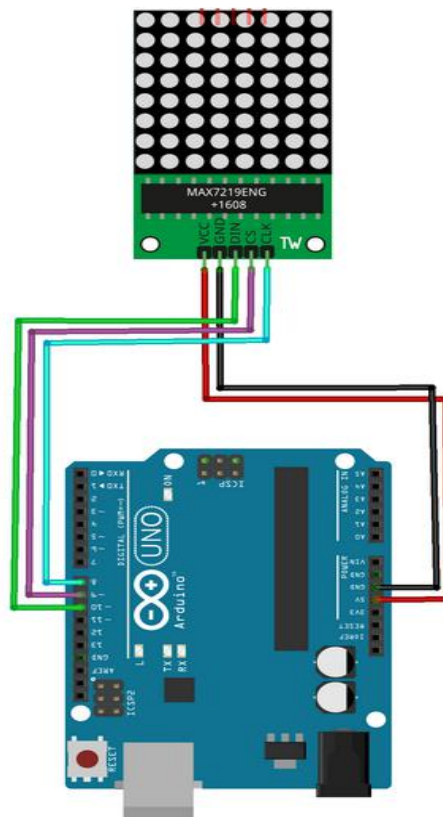
LED Matrix

SKEMA



PERAKITAN

Hubungkan LED Matrix Ke Arduino pada pin papan breadboard dan pin ground seperti pada gambar.



KODE PROGRAM

```
#include <LedControl.h>

int DIN = 10;
int CS = 9;
int CLK = 8;

//Main
byte Design1[8]= {0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,};
byte Design2[8]= {0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x01,};
byte Design3[8]= {0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x03,};
byte Design4[8]= {0x00,0x00,0x00,0x00,0x00,0x01,0x03,0x07,};
byte Design5[8]= {0x00,0x00,0x00,0x00,0x01,0x03,0x07,0x0F,};
byte Design6[8]= {0x00,0x00,0x00,0x01,0x03,0x07,0x0F,0x1F,};
byte Design7[8]= {0x00,0x00,0x01,0x03,0x07,0x0F,0x1F,0x3F,};
byte Design8[8]= {0x00,0x01,0x03,0x07,0x0F,0x1F,0x3F,0x7F,};
byte Design9[8]= {0x01,0x03,0x07,0x0F,0x1F,0x3F,0x7F,0xFF,};
byte Design10[8]= {0x03,0x07,0x0F,0x1F,0x3F,0x7F,0xFF,0xFF,};
byte Design11[8]= {0x07,0x0F,0x1F,0x3F,0x7F,0xFF,0xFF,0xFF,};
byte Design12[8]= {0x0F,0x1F,0x3F,0x7F,0xFF,0xFF,0xFF,0xFF,};
byte Design13[8]= {0x1F,0x3F,0x7F,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte Design14[8]= {0x3F,0x7F,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte Design15[8]= {0x7F,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte Design16[8]= {0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte Design17[8]= {0xBF,0x7F,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte Design18[8]= {0xAF,0x5F,0xBF,0x7F,0xFF,0xFF,0xFF,0xFF,};
byte Design19[8]= {0xAB,0x57,0xAF,0x5F,0xBF,0x7F,0xFF,0xFF,};
byte Design20[8]= {0xAA,0x55,0xAB,0x57,0xAF,0x5F,0xBF,0x7F,};
byte Design21[8]= {0xAA,0x55,0xAA,0x55,0xAB,0x57,0xAF,0x5F,};
byte Design22[8]= {0xAA,0x55,0xAA,0x55,0xAA,0x55,0xAB,0x57,};
byte Design23[8]= {0xAA,0x55,0xAA,0x55,0xAA,0x55,0xAA,0x55,};

//Blink
byte BlinkOn1[8]= {0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,};
byte BlinkOff1[8]= {0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,};
byte BlinkOn2[8]= {0xAA,0x55,0xAA,0x55,0xAA,0x55,0xAA,0x55,};
byte BlinkOff2[8]= {0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,};

LedControl lc=LedControl(DIN,CLK,CS,0);

void setup(){
  lc.shutdown(0,false);          //The MAX72XX is in power-saving mode
  on startup
  lc.setIntensity(0,15);        // Set the brightness to maximum
  value
  lc.clearDisplay(0);          // and clear the display
}

void loop(){
  printByte(Design1);
  delay(100);
}
```

```
printByte (Design2);  
    delay(100);  
printByte (Design3);  
    delay(100);  
printByte (Design4);  
    delay(100);  
printByte (Design5);  
    delay(100);  
printByte (Design6);  
    delay(100);  
printByte (Design7);  
    delay(100);  
printByte (Design8);  
    delay(100);  
printByte (Design9);  
    delay(100);  
printByte (Design10);  
    delay(100);  
printByte (Design11);  
    delay(100);  
printByte (Design12);  
    delay(100);  
printByte (Design13);  
    delay(100);  
printByte (Design14);  
    delay(100);  
printByte (Design15);  
    delay(100);  
printByte (Design16);
```

```
        delay(100);  
//Blink1  
printByte(BlinkOn1);  
delay(750);  
printByte(BlinkOff1);  
delay(750);  
printByte(BlinkOn1);  
delay(750);  
printByte(BlinkOff1);  
delay(750);  
printByte(BlinkOn1);  
delay(750);  
//Design2  
printByte(Design17);  
delay(100);  
printByte(Design18);  
delay(100);  
printByte(Design19);  
delay(100);  
printByte(Design20);  
delay(100);  
printByte(Design21);  
delay(100);  
printByte(Design22);  
delay(100);  
printByte(Design23);  
delay(100);  
//Blink2  
printByte(BlinkOn2);  
delay(750);
```

```
printByte(BlinkOff2);  
  
delay(750);  
  
printByte(BlinkOn2);  
  
delay(750);  
  
printByte(BlinkOff2);  
  
delay(750);  
  
}  
  
void printByte(byte character [])  
{  
    int i = 0;  
    for(i=0;i<8;i++)  
    {  
        lc.setRow(0,i,character[i]);  
    }  
}
```

LATIHAN

Lakukan memprogram nyala LED matrix menggunakan fungsi ARRAY dalam bahasa C for Arduino.

LAPORAN HASIL PERCOBAAN: