Bahan Ajar

Modul

PEMROGRAMAN TERSTRUKTUR

Kode Matakuliah: SKO21411

C For Arduino

Penyusun:
Bayu Nugroho. S.Kom., M.Eng

PROGRAM STUDI SISTEM KOMPUTER

FAKULTAS ILMU KOMPUTER

INSTITUT INFORMATIKA DAN BISNIS DARMAJAYA

2023

DAFTAR ISI

JOBSHEET 4
Konstanta dan Variable (Motor Spin)

KOMPONEN


Breadboar


Motor

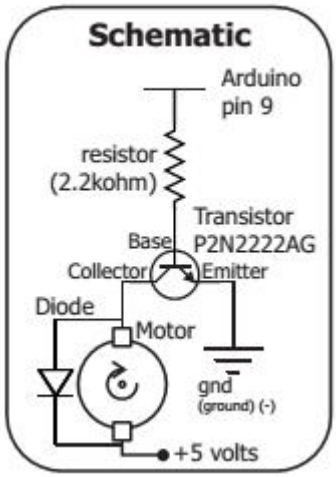

Kabel Jumper


R 2,2 K


Dioda 1N400

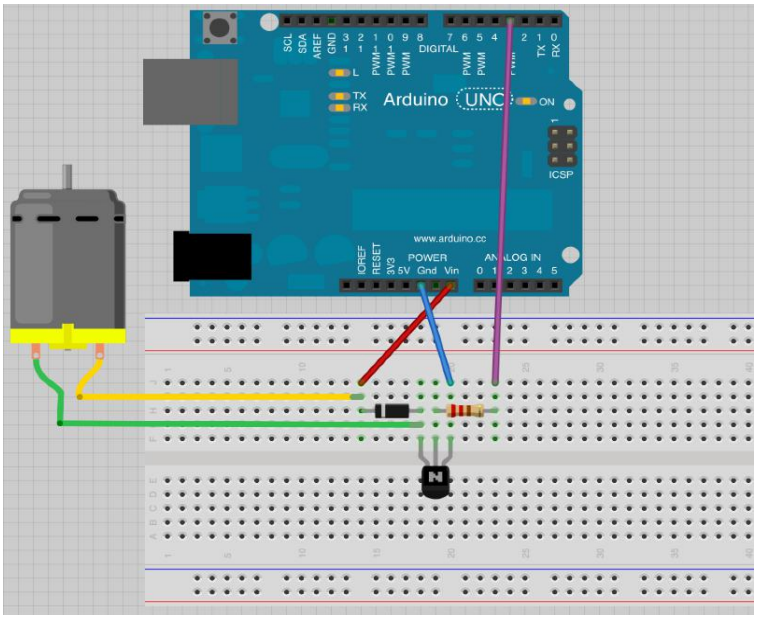

Transisto r 2222

SKEMA



PERAKITAN

Hubungkan Pin 9 Arduino ke kaki resistor pada papan breadboard dan transistor seperti pada gambar.



KODE PROGRAM

```
int motorPin = 9;
//pin the motor is connected to

void setup() //runs once
{
pinMode(motorPin, OUTPUT);
}

void loop() // run over and over again
{
motorOnThenOff();
//motorOnThenOffWithSpeed();
//motorAcceleration();
}

/*
* motorOnThenOff() - turns motor on then off
* (notice this code is identical to the code we
used for
* the blinking LED)
*/

void motorOnThenOff(){
int onTime = 2500; //on time
int offTime = 1000; //off time
digitalWrite(motorPin, HIGH);
// turns the motor On
delay(onTime); // waits for onTime milliseconds
digitalWrite(motorPin, LOW);
// turns the motor Off
delay(offTime); // waits for offTime milliseconds
}

void motorOnThenOffWithSpeed(){
int onSpeed = 200;// a number between
//0 (stopped) and 255 (full speed)
int onTime = 2500;
int offSpeed = 50;// a number between
//0 (stopped) and 255 (full speed)
int offTime = 1000;
analogWrite(motorPin, onSpeed);
// turns the motor On
delay(onTime); // waits for onTime milliseconds
analogWrite(motorPin, offSpeed);
// turns the motor Off
delay(offTime); // waits for offTime milliseconds
}
void motorAcceleration(){
int delayTime = 50; //time between each speed step
for(int i = 0; i < 256; i++){
//goes through each speed from 0 to 255
analogWrite(motorPin, i); //sets the new speed
delay(delayTime);// waits for delayTime milliseconds
```

```
}
for(int i = 255; i >= 0; i--){
//goes through each speed from 255 to 0
analogWrite(motorPin, i); //sets the new speed
delay(delayTime);//waits for delayTime milliseconds
}
}
```

LATIHAN

Lakukan memprogram motor DC dengan menggunakan beberapa varibel dan Konstanta pada Tipe Data bahasa C for Arduino.

LAPORAN HASIL PERCOBAAN: