SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

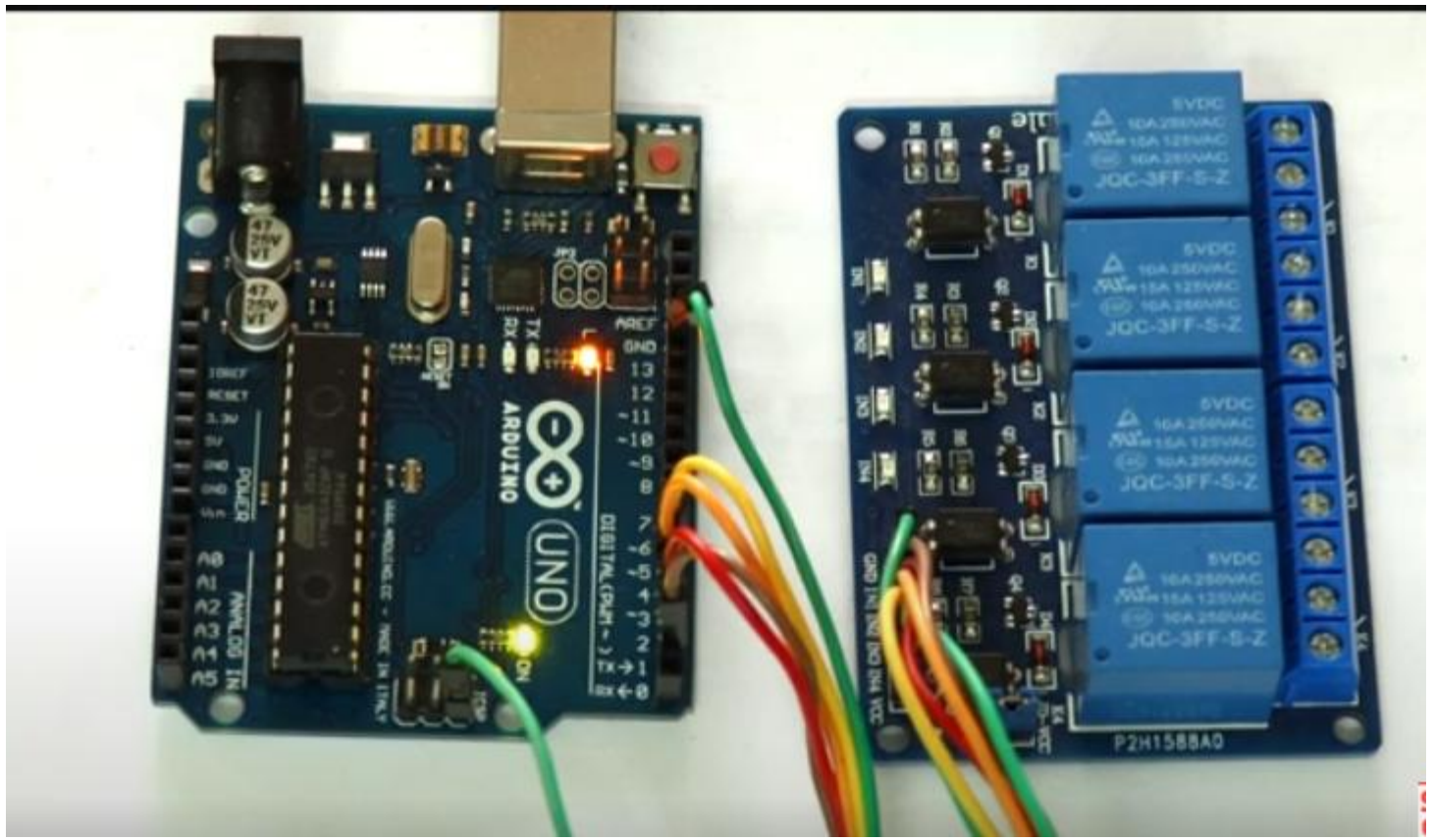
19ECT213- IoT SYSTEM ARCHITECTURE

II ECE / IV SEMESTER

UNIT 3 – ACTUATORS AND IOT NETWORKING DEVICES

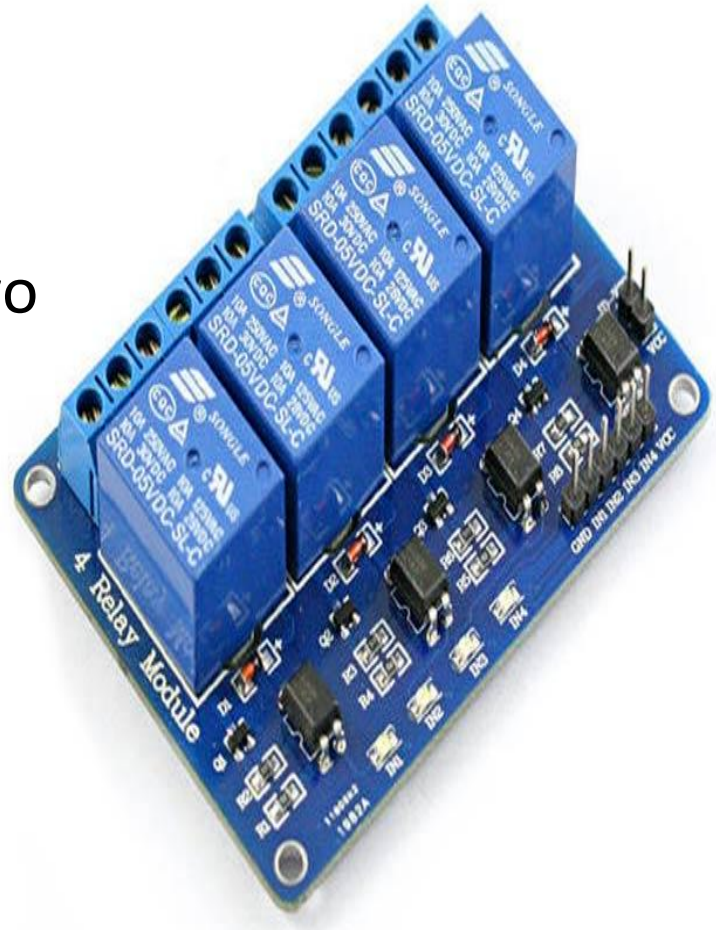
TOPIC 2 –Programming and Interfacing of Actuators: - Relay

Programming and Interfacing of Relay with Arduino

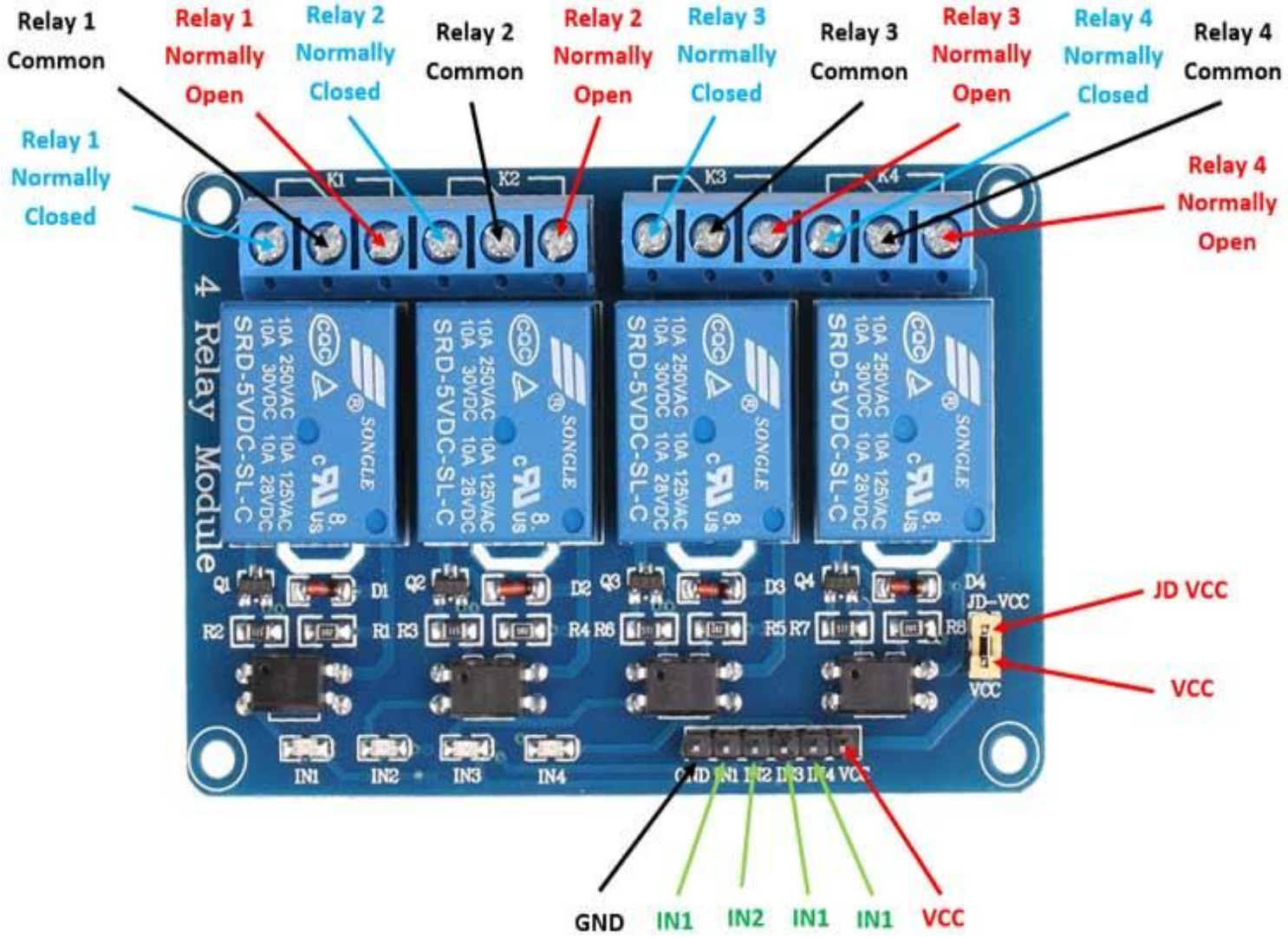


5V Four Channel Relay Module

- Isolated Module- Optical isolation between indivual relay
- Control High voltage device (230v, aC- Unoborad %v dc- Interface between these two
- Elecrro Mechnaical Device
- Act as Two way switch- 3 pin use
- Act as swtich- 2 pin use

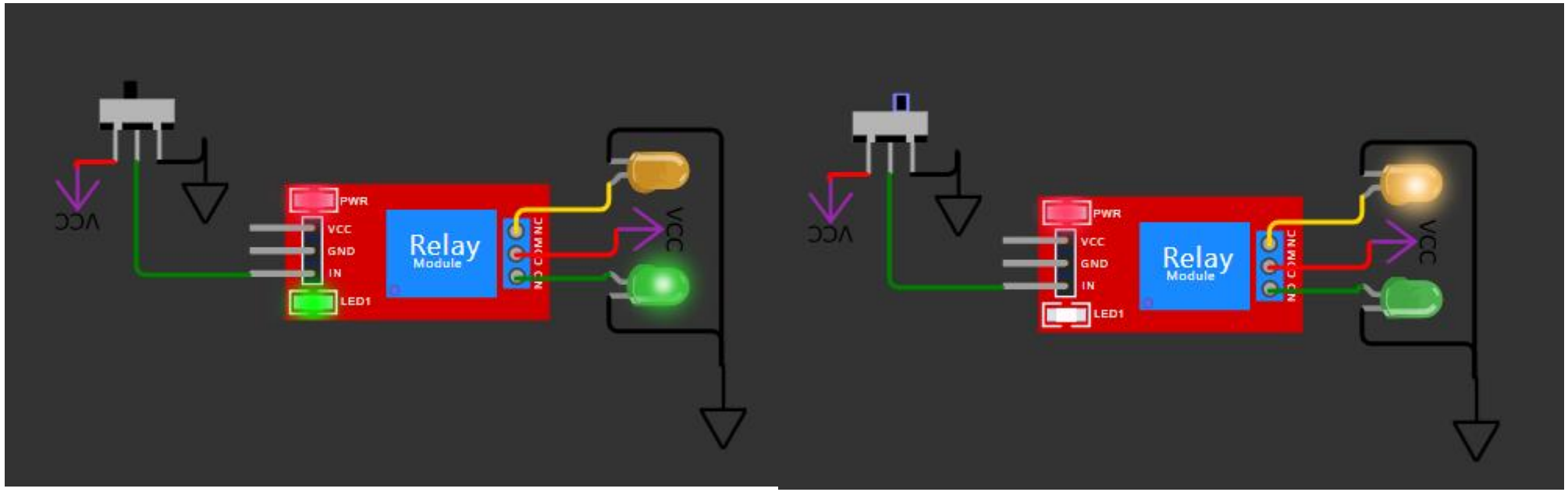


5V Four-Channel Relay Module



Programming and Interfacing of Relay with Arduino

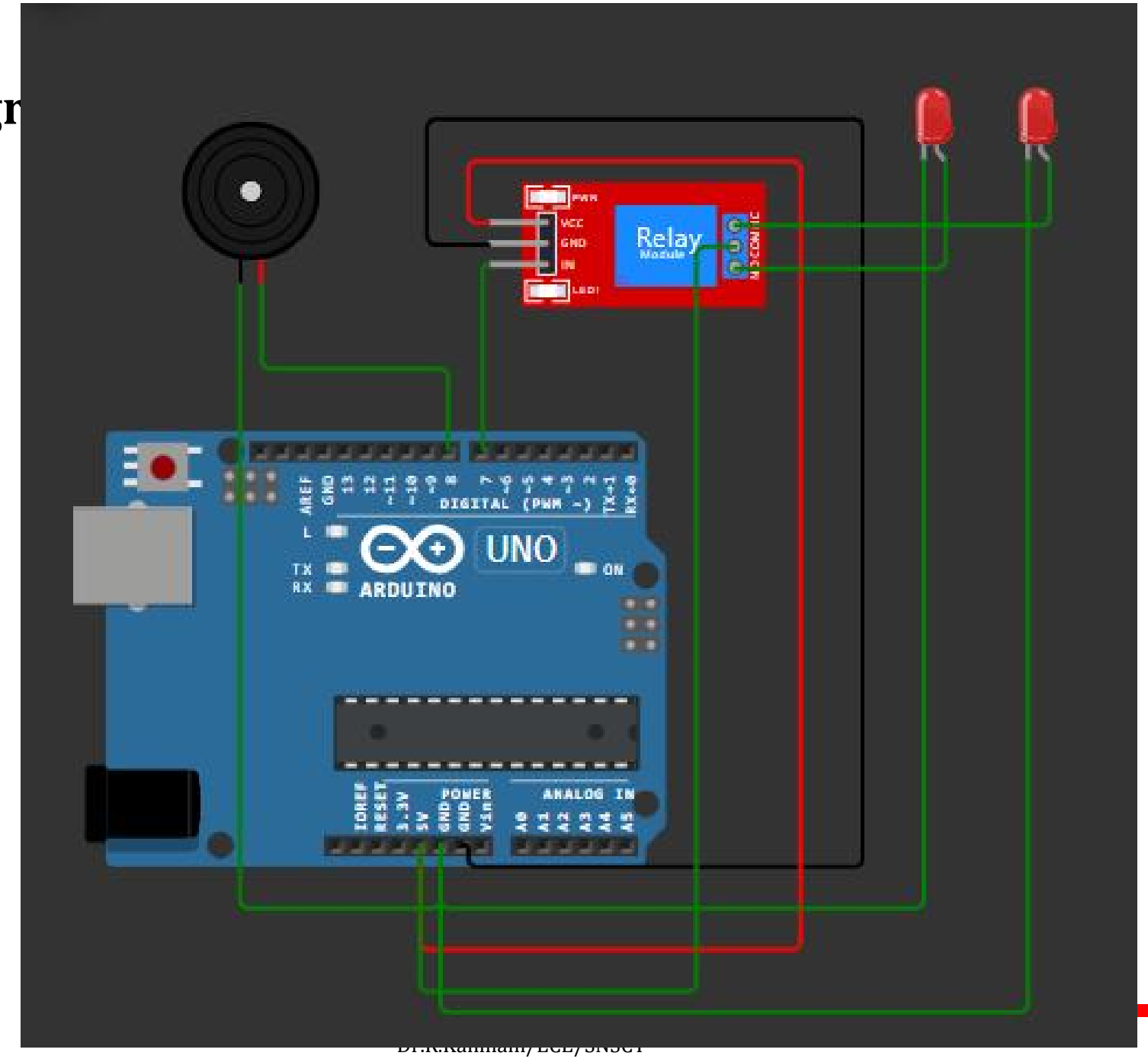
- https://wokwi.com/projects/394759187425923073



Programming and Interfacing of Relay with Arduino

- https://wokwi.com/projects/394759238448594945
- First 2 seconds- LED1 ON, LED2 OFF, BUzzer OFF
- Next 1 seconds- LED2 ON, BUzzer ON, LED1 OFF

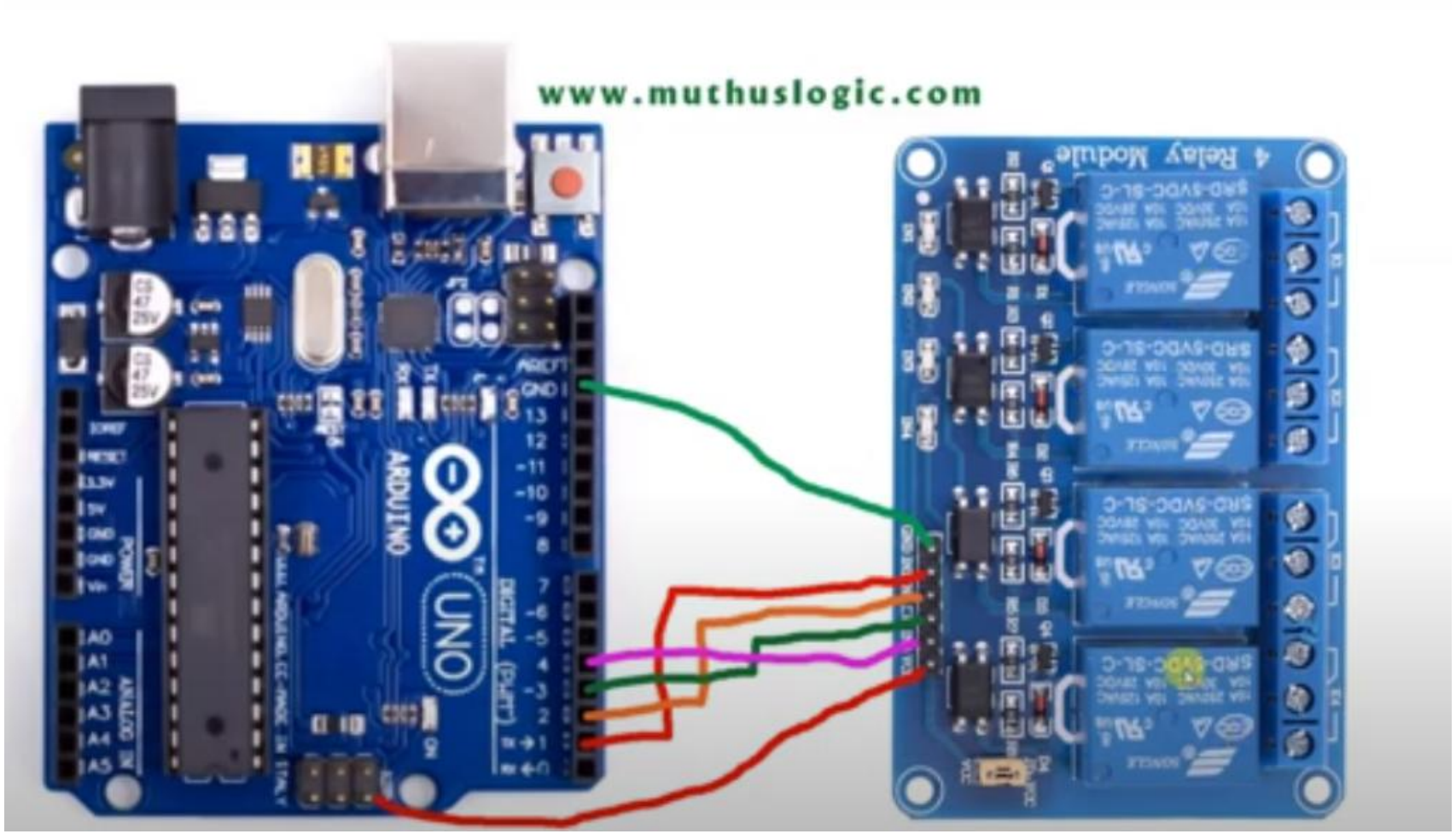
Progr


PWR
VCC
GND
IN
LED1
Relay
Module
JD-VCC
UNO
ARDUINO
ON
TX
RX
L
DIGITAL (PWM ~)
POWER
ANALOG IN

Pro

```
// Define relay and buzzer pins
const int relayPin = 7;
const int buzzerPin = 8;

void setup() {
  pinMode(relayPin, OUTPUT);
  pinMode(buzzerPin, OUTPUT);
}

void loop() {
  // Turn on relay for 2 seconds (activate the connected device)
  digitalWrite(relayPin, HIGH);
  delay(2000); // Wait for 2 seconds

  // Turn off relay
  digitalWrite(relayPin, LOW);

  // Sound the buzzer for 1 second
  digitalWrite(buzzerPin, HIGH);
  delay(1000); // Wait for 1 second
  digitalWrite(buzzerPin, LOW);

  // Wait for 2 seconds before repeating the process
  delay(2000);
}
```

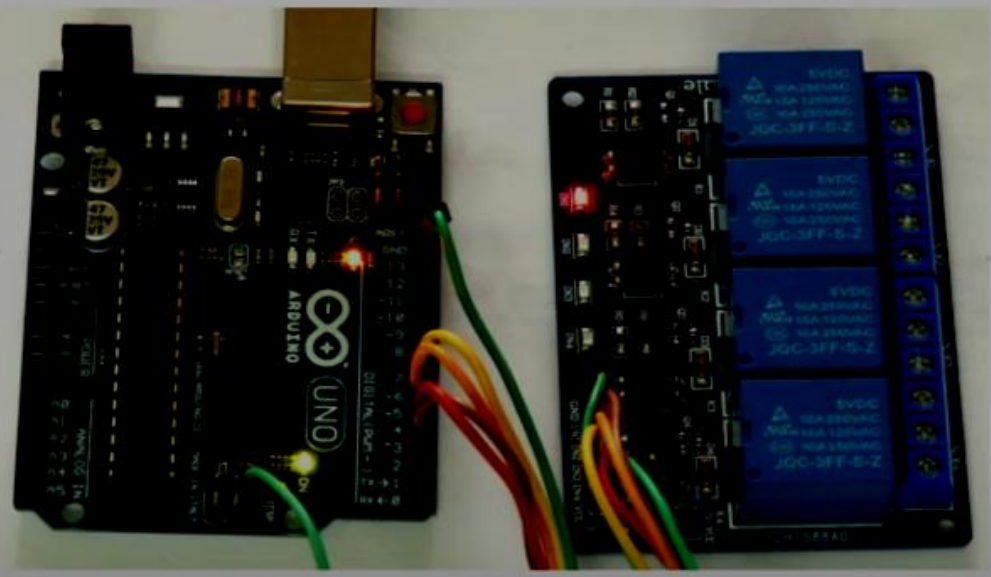
Programming and Interfacing of Relay with Arduino



Programming and Interfacing of Relay with Arduino

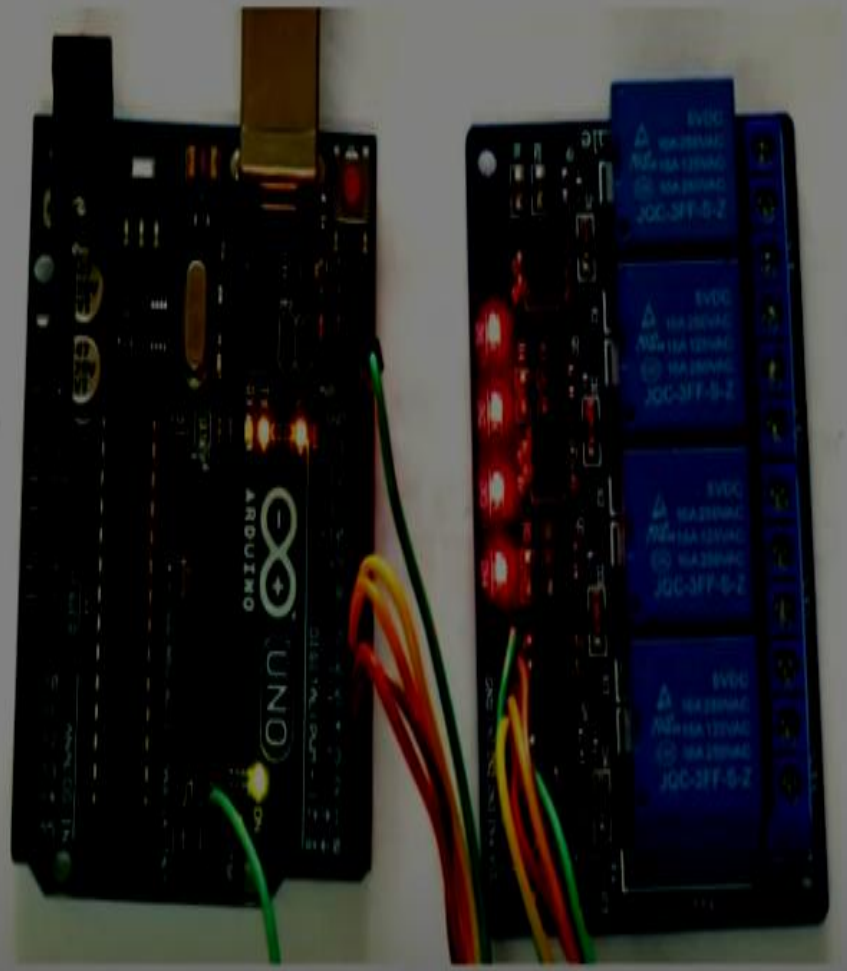
relay_module_demo1 §

```
1  void setup() {
2    // put your setup code here, to run once:
3    pinMode(1, OUTPUT);
4    pinMode(2, OUTPUT);
5    pinMode(3, OUTPUT);
6    pinMode(1, OUTPUT);
7  }
8
9  void loop() {
10   // put your main code here, to run repeatedly:
11   digitalWrite(1, HIGH); // aply 5volt at pin 1
12   delay(1000); // 1 second delay
13   digitalWrite(1, LOW); // 0 volt
14   delay(1000);
15 }
```



https://www.youtube.com/watch?v=5ocLn2b0n-c

```
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
}

void loop() {
  // put your main code here, to run repeatedly:
  digitalWrite(1, HIGH); // aply 5volt at pin 1
  digitalWrite(2, HIGH); // aply 5volt at pin 1
  digitalWrite(3, HIGH); // aply 5volt at pin 1
  digitalWrite(4, HIGH); // aply 5volt at pin 1

  delay(1000); // 1 second delay

  digitalWrite(1, LOW); // 0 volt
  digitalWrite(2, LOW); // 0 volt
  digitalWrite(3, LOW); // 0 volt
  digitalWrite(4, LOW); // 0 volt
  delay(1000);
}
```



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