Internet of Things

Subject Code: 22CAH-751

Student Name: Vikas Raj **UID:** 22MCA20848

Section/Group: 5/A **Semester:** 4th

Date of Performance: 01/04/24

Experiment – 2.4

1. Aim/Overview of the practical:

Interface an Arduino with SPDT relay and Bulb in Tinker Cad and follow the certain conditions:

a) Turn on the Bulb for 10 Secs and turn off for 5 Secs using relay and Power Supply.

Can Use any one terminal either NO or NC for connecting with Bulb.

2. Hardware Requirements

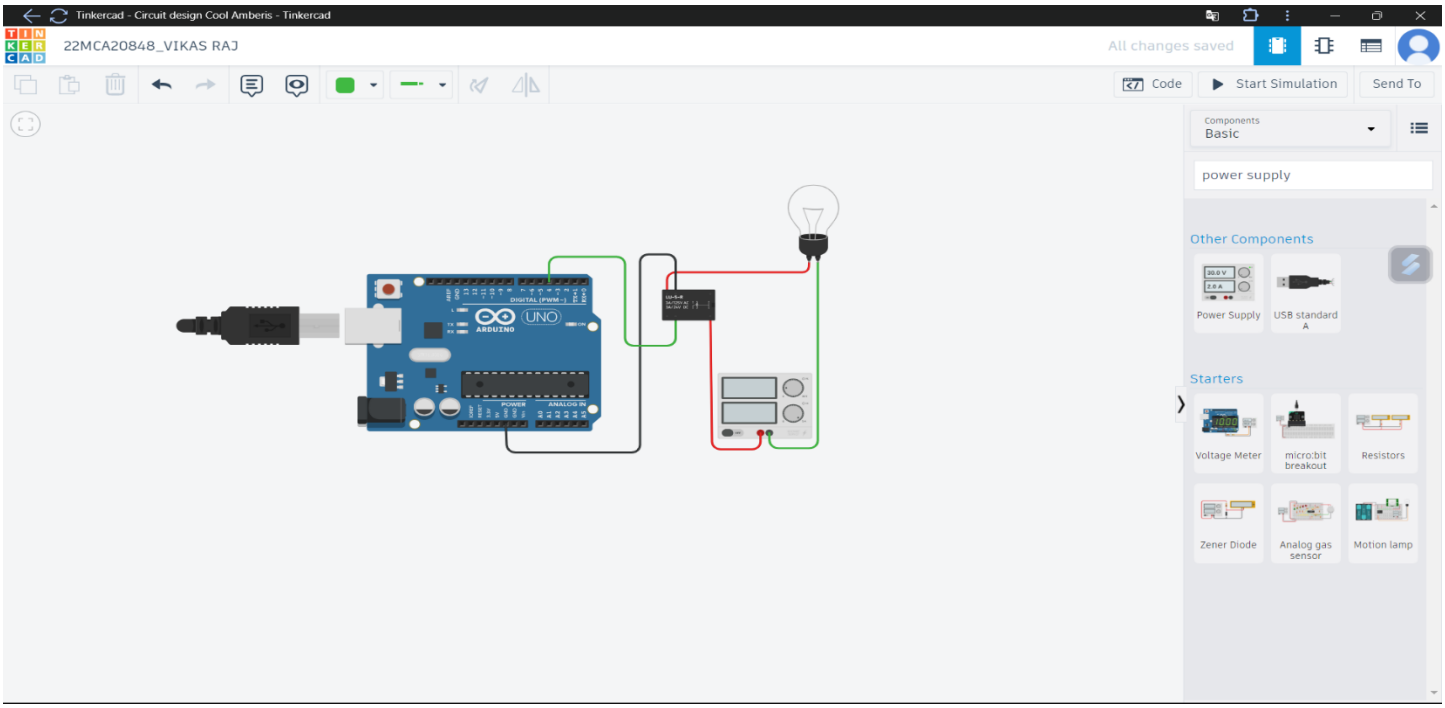
- Arduino uno
- Power Supply
- Relay SPDT
- Bulb
- Wires

3. Software Requirements

- Tinkercad

4. Circuit Diagram(TinkerCad)

HG

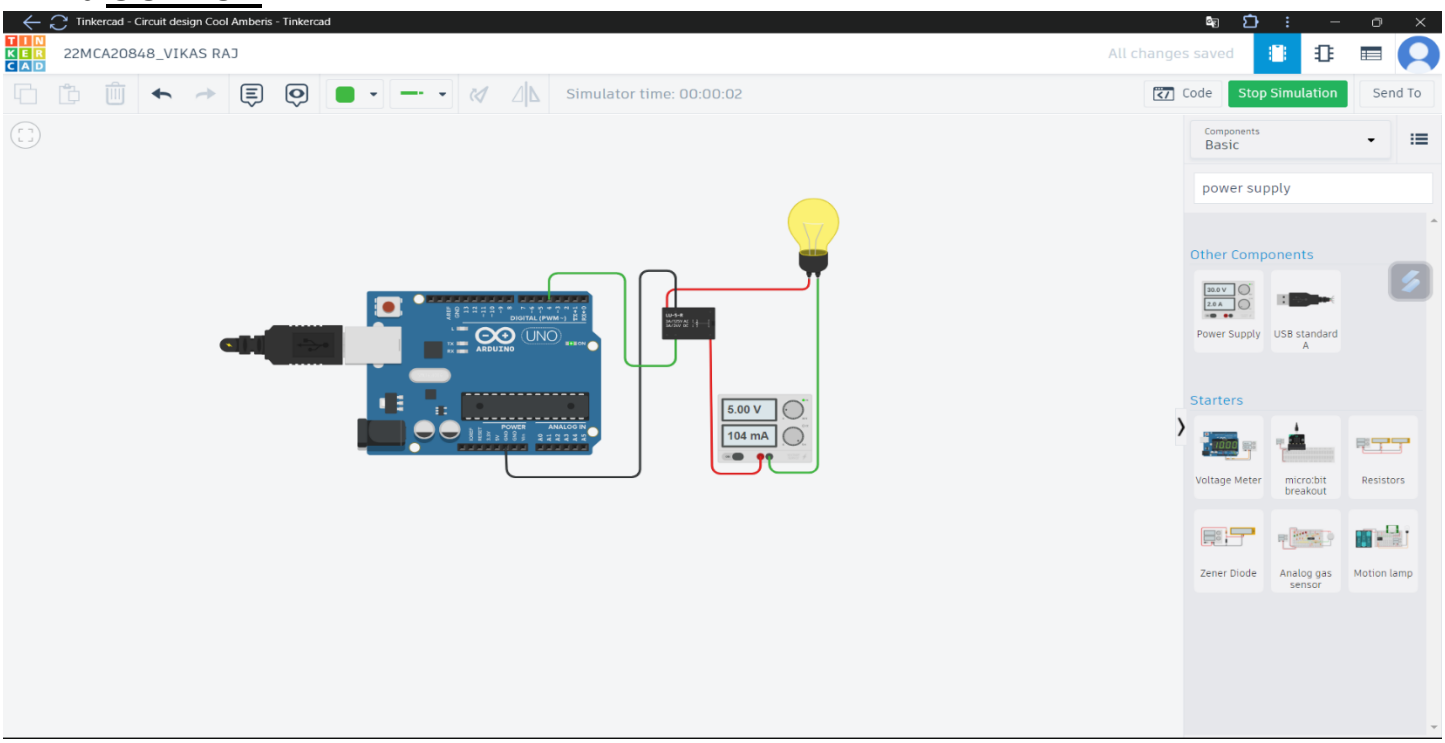


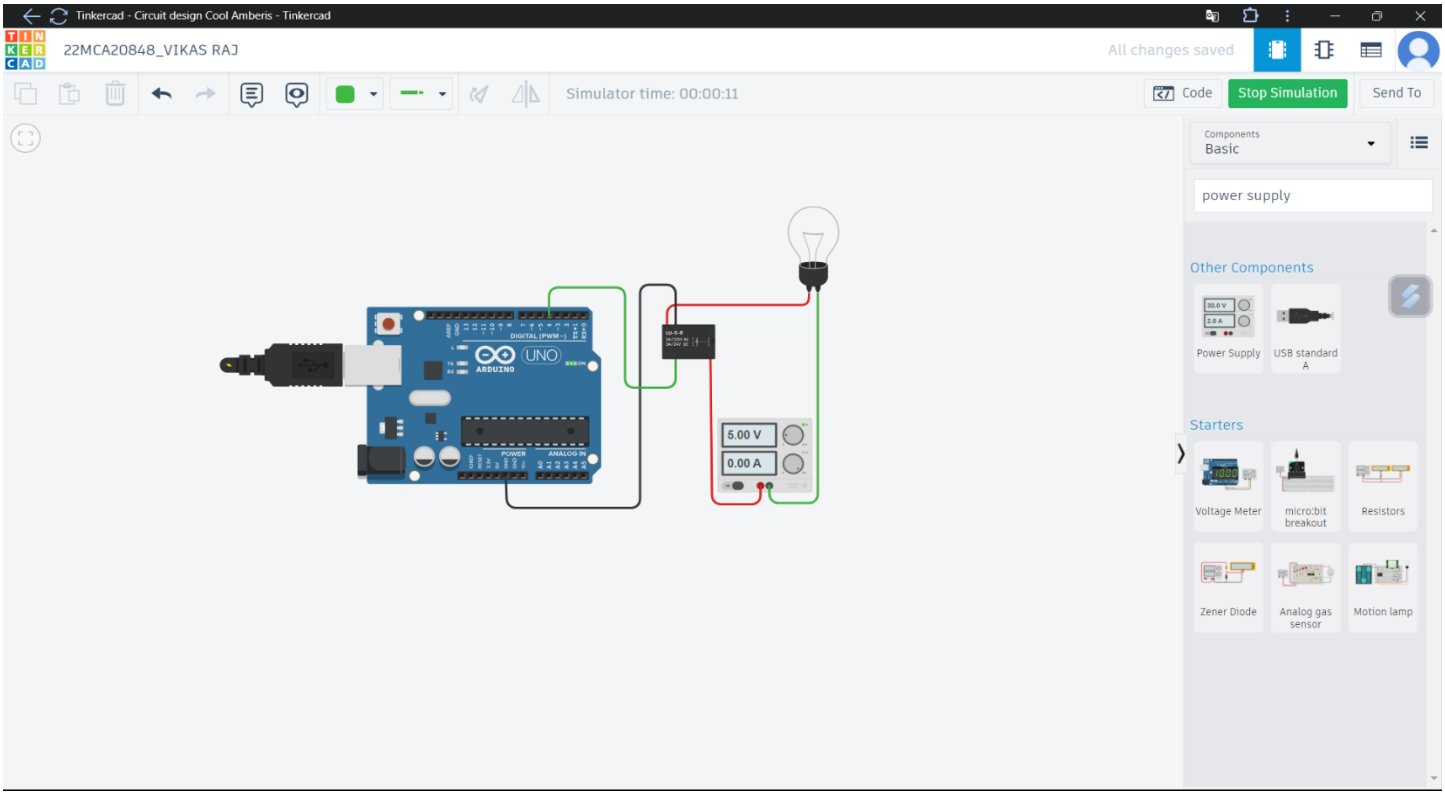
5. CODE

```
// C++ code
// Define the pin for controlling the relay
#define RELAY_PIN 10

void setup() {
  // Initialize the relay pin as an output
  pinMode(4, OUTPUT);
}

void loop() {
  // Turn on the bulb by activating the relay for 10
seconds
  digitalWrite(4, HIGH);
  delay(10000); // 10 seconds
```

```
 // Turn off the bulb by deactivating the relay for
5 seconds
 digitalWrite(4, LOW);
 delay(5000); // 5 seconds
}
```

6.OUTPUT





. Learning outcomes (What I have learnt):

1.Understanding of relay functionality, how a relay works as an electrically operated switch.

2. how to use an Arduino microcontroller to control the on/off function of a bulb using a relay, which acts like a switch.