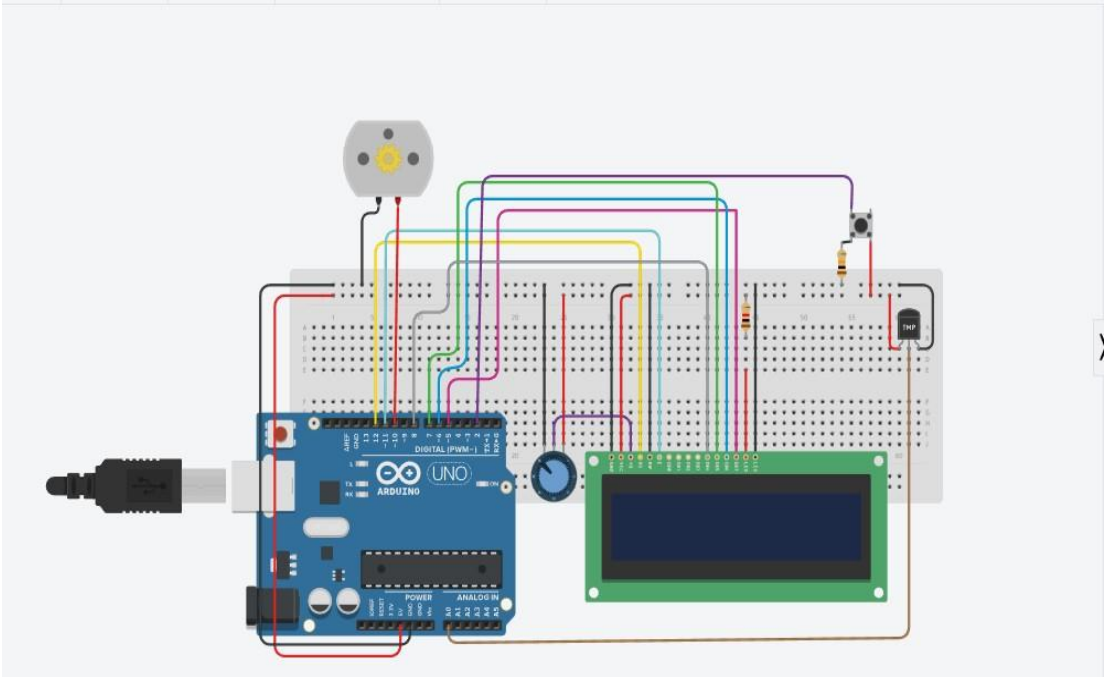
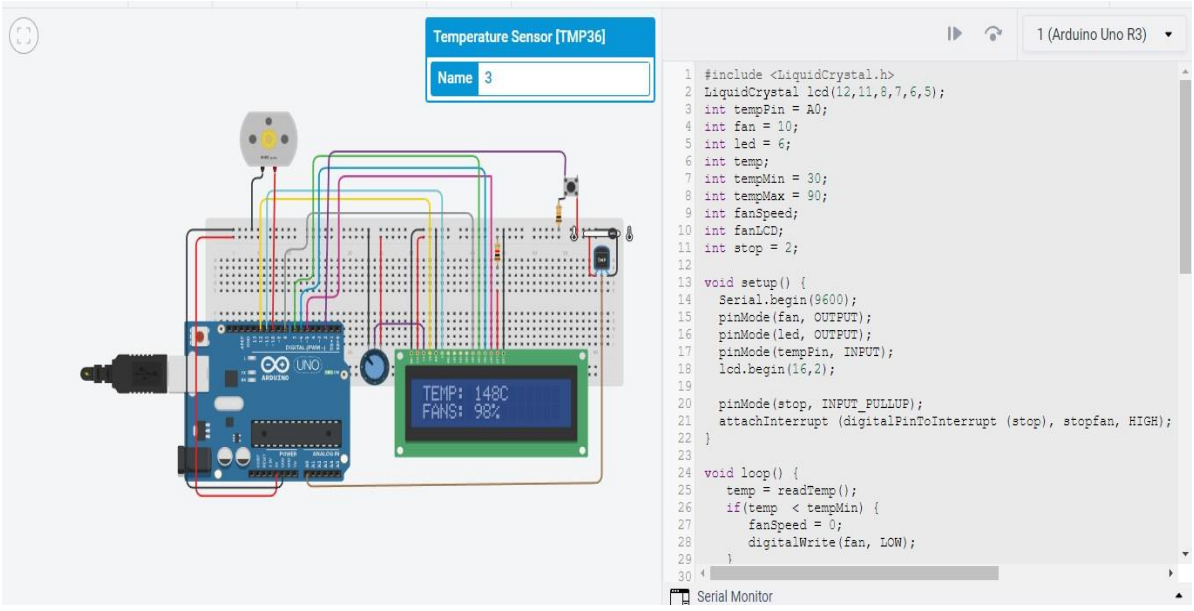
Assignment – 1

(SMART HOME AUTOMATION)

Assignment Date	28 September 2022
Student Name	Mr. Gokul Erusappan N
Student Roll Number	611219106023
Maximum Marks	2 Marks
Team ID	PNT2022TMID30278

CIRCUIT DIAGRAM:





Program:

```
#include <LiquidCrystal.h>
LiquidCrystal lcd(12,11,8,7,6,5);
int tempPin = A0;
int fan = 10;
int led = 6;
int temp;
int tempMin = 30;
int tempMax = 90;
int fanSpeed;
int fanLCD;
int stop = 2;
void setup()
{
Serial.begin(9600);
pinMode(fan, OUTPUT);
pinMode(led, OUTPUT);
pinMode(tempPin, INPUT);
lcd.begin(16,2);
pinMode(stop, INPUT_PULLUP);
attachInterrupt
(digitalPinToInterrupt (stop),
stopfan, HIGH);
}
void loop()
{
temp = readTemp();
if(temp < tempMin)
{
fanSpeed = 0; digitalWrite(fan,
LOW);
```

```
}
if((temp >= tempMin) && (temp
<= tempMax))
{
fanSpeed = map(temp,
tempMin, tempMax, 32, 255);
fanLCD = map(temp, tempMin,
tempMax, 0, 100);
analogWrite(fan, fanSpeed);
}
if(temp > tempMax) {

digitalWrite(led, HIGH);
}
else
{
digitalWrite(led, LOW);
}

lcd.print("TEMP: ");
lcd.print(temp);
lcd.print("C ");
lcd.setCursor(0,1);
lcd.print("FANS: ");
lcd.print(fanLCD);
lcd.print("%");
delay(200);
lcd.clear();
}
int readTemp() {
temp = analogRead(tempPin);
return temp * 0.48828125;
```

```
}



void stopfan () {
lcd.clear();
digitalWrite (fan, LOW);
delayMicroseconds(9000000000
0000000000000);
Serial.println("Mati");
lcd.print("TEMP: --");
lcd.setCursor(0,1);
lcd.print("FANS: 0%");

}
LiquidCrystal lcd(12,11,8,7,6,5);
int tempPin = A0;
  int fan = 10;
  int led = 6;
  int temp;
  int tempMin = 30;
  int tempMax = 90;
  int fanSpeed;
  int fanLCD;
  int stop = 2;
  void setup() {
    Serial.begin(9600);
    pinMode(fan, OUTPUT);
    pinMode(led, OUTPUT);
    pinMode(tempPin, INPUT);
    lcd.begin(16,2);
    pinMode(stop, INPUT_PULLUP);
    attachInterrupt (digitalPinToInterrupt (stop), stopfan, HIGH);
  }
```

```
void loop()
{
temp = readTemp();
if(temp < tempMin)
{
fanSpeed = 0; digitalWrite(fan, LOW);
}
if((temp >= tempMin) && (temp <= tempMax))
{
fanSpeed = map(temp, tempMin, tempMax, 32, 255);
fanLCD = map(temp, tempMin, tempMax, 0, 100);
analogWrite(fan, fanSpeed);
}
if(temp > tempMax) {

digitalWrite(led, HIGH);
}
else
{
digitalWrite(led, LOW);
}

lcd.print("TEMP: ");
lcd.print(temp);
lcd.print("C ");
lcd.setCursor(0,1);
lcd.print("FANS: ");
lcd.print(fanLCD);
lcd.print("%");
delay(200);
lcd.clear();
}
int readTemp() {
```

```
temp = analogRead(tempPin);
return temp * 0.48828125;
}


void stopfan () {
lcd.clear();
digitalWrite (fan, LOW);
delayMicroseconds(900000000000000000000000);
Serial.println("Mati");
lcd.print("TEMP: --");
lcd.setCursor(0,1);
lcd.print("FANS: 0%");

}
```