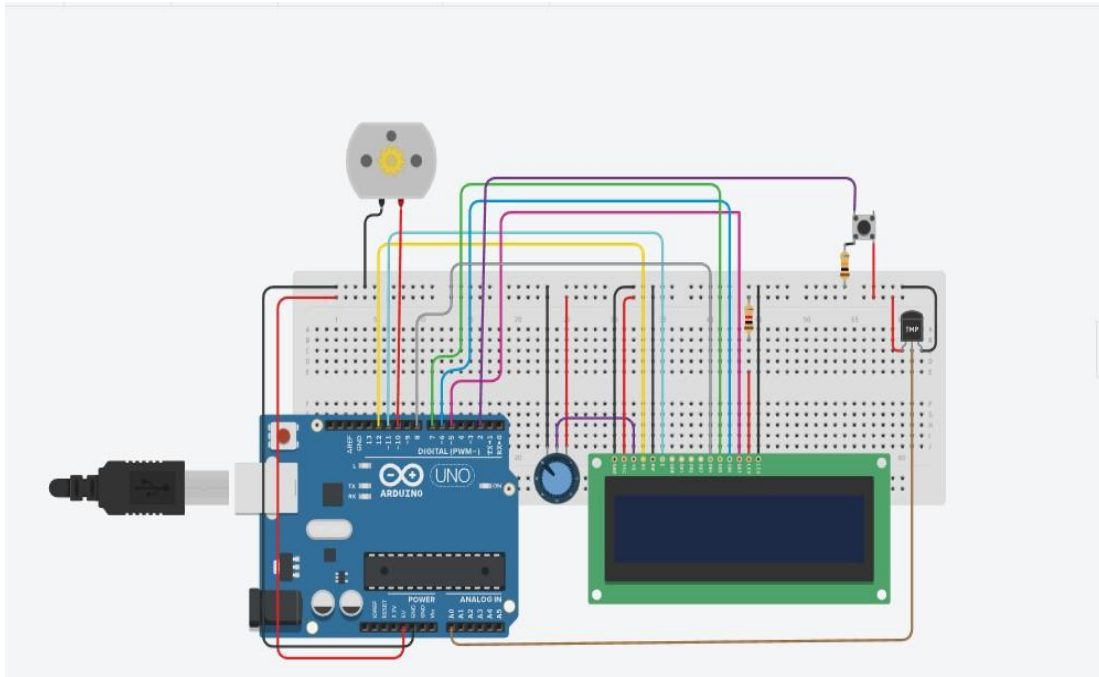


## Assignment – 1 (SMART HOME AUTOMATION)

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

### CIRCUIT DIAGRAM:



```

1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(12,11,8,7,6,5);
3 int tempPin = A0;
4 int fan = 10;
5 int led = 6;
6 int temp;
7 int tempMin = 30;
8 int tempMax = 90;
9 int fanSpeed;
10 int fanLCD;
11 int stop = 2;
12
13 void setup() {
14   Serial.begin(9600);
15   pinMode(fan, OUTPUT);
16   pinMode(led, OUTPUT);
17   pinMode(tempPin, INPUT);
18   lcd.begin(16,2);
19
20   pinMode(stop, INPUT_PULLUP);
21   attachInterrupt (digitalPinToInterrupt (stop), stopfan, HIGH);
22 }
23
24 void loop() {
25   temp = readTemp();
26   if(temp < tempMin) {
27     fanSpeed = 0;
28     digitalWrite(fan, LOW);
29   }
30

```

Temperature Sensor [TMP36]

Name 3

**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(90000000000  
00000000000000);  
  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(90000000000000000000000000000000);  
  
  Serial.println("Mati");  
  
  lcd.print("TEMP: --");  
  
  lcd.setCursor(0,1);  
  
  lcd.print("FANS: 0%");  
  
}
```