Task: 4 **STEAM SENSOR**

11.03.2022

Problem definition:

Steam sensor is an analog sensor and can be made as a simple rainwater detector and liquid level switch. When humidity on the face of this sensor rises, output voltage will increase. The steam is detected using a steam sensor in Arduino UNO board and using buzzer.

Tools used:

Software - Arduino

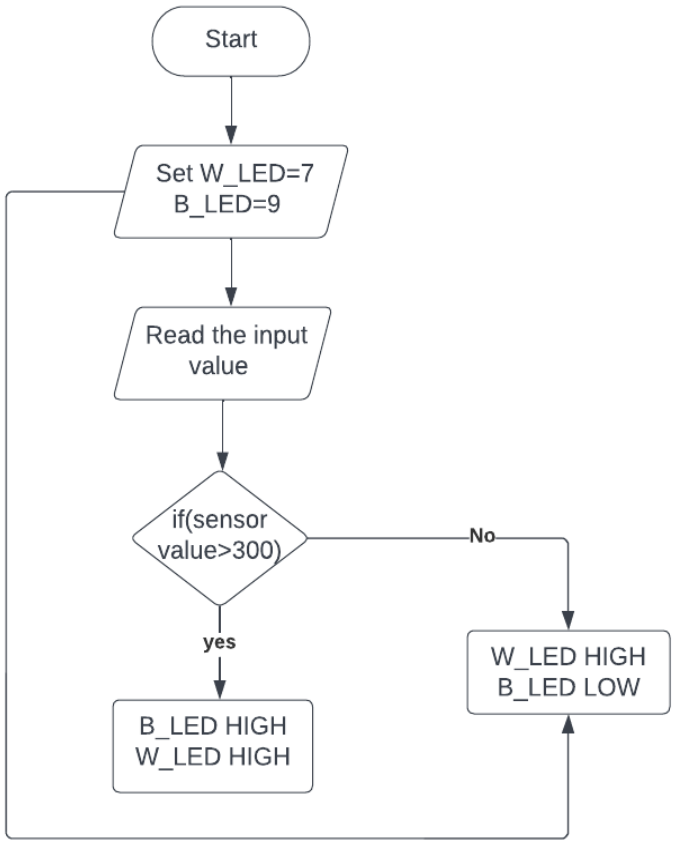
Hardware – LEDs and Steam sensor

Board - Arduino UNO

Sensor description:

This is a steam(water)sensor from DFRobot. This steam sensor can be connected to the Arduino IO Expansion shield directly. The output voltage will increase when the humidity of the sensor surface goes up. These sensors must be kept away from water, just vapour.

Flow chart:



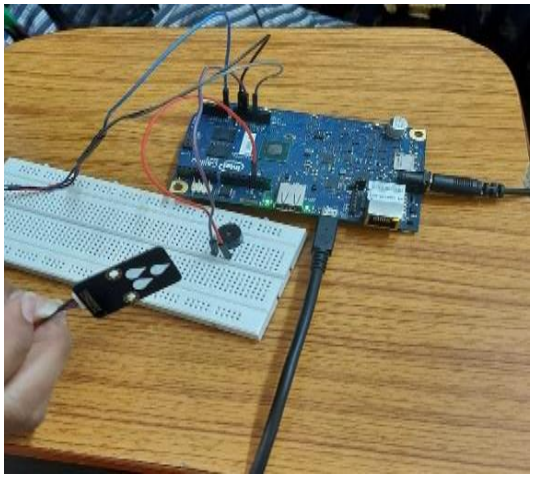
Source code:

```
const int W_LED=7;
const int B_LED=9;
int sensorValue;

void setup()
{
  Serial.begin(9600);
 // pinMode(buzzer, OUTPUT);
  pinMode(W_LED, OUTPUT);
  pinMode(B_LED, OUTPUT);
}


void loop()
{
  //digitalWrite(buzzer,HIGH);
```

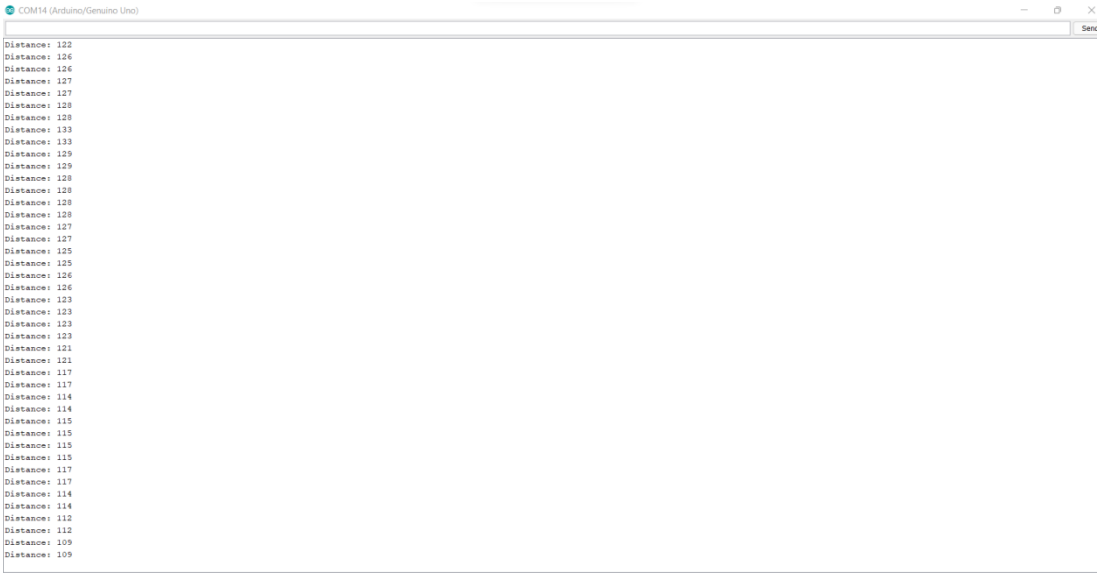
```
  sensorValue = analogRead(0);
  if(sensorValue >300){
    Serial.println("Steam is detected");
    Serial.println(sensorValue);
    digitalWrite(W_LED,HIGH);
    digitalWrite(B_LED,HIGH);
    delay(1000);
  }
  else{
    Serial.println("Steam is not detected");
    Serial.println(sensorValue);
    digitalWrite(W_LED,HIGH);
    digitalWrite(B_LED,LOW);
    delay(1000);
  }

}
```

Sample input and output:

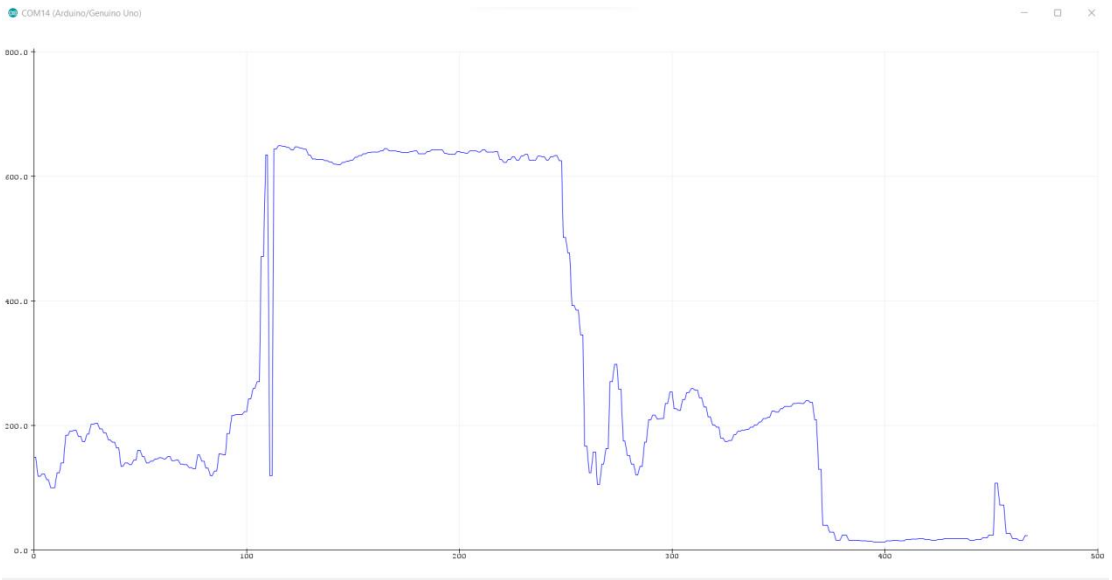
Buzzer ON for a humidity on the sensor



Serial monitor output of steam sensor:



Serial plotter output of steam sensor:



Real time applications:

1. The steam sensor acts as a simple rain detector.
2. In industries, the steam sensor is used as a cheap steam level switch to detect the steam level.
3. This sensor acts as a touch sensor based on humidity

Conclusion:

Hence, the emission of steam is detected using steam sensor with the buzzer sound the amount of steam detected.