

Assignment-2

Build a python code assume you get temperature and humidity values and write a condition to continuously detect alarm in case of high temperature.

Code:

Ardino code:

```
#include <SimpleDHT.h>
#include <LiquidCrystal.h>

char d;

// for DHT11,
//   VCC: 5V or 3V
//   GND: GND
//   DATA: 2

int pinDHT11 = 8;
SimpleDHT11 dht11(pinDHT11);
LiquidCrystal lcd(2,3,4,5,6,7);

void setup() {
  Serial.begin(9600);
  lcd.begin(16, 2);
}

void loop() {
  if(Serial.available())
  {
    d=Serial.read();
```

```
}  
if (d=='a')  
{  
  
    // read without samples.  
    byte temperature = 0;  
    byte humidity = 0;  
    int err = SimpleDHTErrSuccess;  
    if ((err = dht11.read(&temperature, &humidity, NULL)) !=  
SimpleDHTErrSuccess) {  
        return;  
    }  
    //lcd.setCursor(0,0);  
    //lcd.print("Temp is ");  
    //lcd.print((int)temperature); lcd.print(" *C, ");  
    //lcd.setCursor(0,1);  
    //lcd.print("Humidity:");  
    //lcd.print((float)humidity);  
    Serial.println(temperature);  
    Serial.println(humidity);  
    // DHT11 sampling rate is 1HZ.  
    delay(1500);  
}  
}
```

Python code:

```
import serial
import time
import pytsx3
import speech_recognition as sr

def takeCommand():
    r = sr.Recognizer()
    with sr.Microphone() as source:
        print("Listening...")
        r.pause_threshold = 0.5
        audio = r.listen(source)
    try:
        print("Recognizing... wait a minute")
        query = r.recognize_google(audio, language='en-in')
        print(f"User said: {query}\n")

    except Exception as e:
        # print(e)
        print("Say that again please... icannot recognizing")
        query = "none"
    return query

def speak(audio):
    engine.say(audio)
    engine.runAndWait()

engine = pytsx3.init('sapi5')
voices=engine.getProperty('voices')
```

```
engine.setProperty("voice",voices[0].id)
engine.setProperty("rate",140)
engine.setProperty("volume",1000)
```

```
if __name__ == "__main__":
    ard = serial.Serial('com10',9600)
    time.sleep(2)
```

```
var = 'pt'
query=takeCommand().lower()
if 'tell me temperature' in query:
    var ='a'
    c=var.encode()
    speak("yeah..")
```

```
if var == 'a':
    ard.write(c)
    time.sleep(1)
    iny =(ard.readline())
    iny=iny.decode()
    iny=str(iny)
    print(iny)
    speak(str(iny)+"degree centigrade is the temperature!!")
```

```
if var == 'b':
    ard.write(c)
```