ASSIGNMENT-2

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MAXIMUM MARKS	2 Marks

Question 1

Build a python code, Assume u get temperature and humidity values (generated with a random function to a variable) and write a condition to detect an alarm in case of high temperature continuously

Program:

```
# import standard python modules.

import time


# import adafruit dht library.

import Adafruit_DHT


# import Adafruit IO REST client.

from Adafruit_IO import Client, Feed


# Delay in-between sensor readings, in seconds.

DHT_READ_TIMEOUT = 5


# Pin connected to DHT22 data pin

DHT_DATA_PIN = 26


# Set to your Adafruit IO key.

# Remember, your key is a secret,

# so make sure not to publish it when you publish this code!

ADAFRUIT_IO_KEY = 'YOUR_AIO_KEY'


# Set to your Adafruit IO username.

# (go to https://accounts.adafruit.com to find your username).
```

```python
ADAFRUIT_IO_USERNAME = 'YOUR_AIO_USERNAME'


# Create an instance of the REST client.
aio = Client(ADAFRUIT_IO_USERNAME, ADAFRUIT_IO_KEY)


# Set up Adafruit IO Feeds.
temperature_feed = aio.feeds('temperature')
humidity_feed = aio.feeds('humidity')


# Set up DHT22 Sensor.
dht22_sensor = Adafruit_DHT.DHT22


while True:
    humidity, temperature = Adafruit_DHT.read_retry(dht22_sensor, DHT_DATA_PIN)
    if humidity is not None and temperature is not None:
        print('Temp={0:0.1f}*C Humidity={1:0.1f}%'.format(temperature, humidity))
        # Send humidity and temperature feeds to Adafruit IO
        temperature = '%.2f'%(temperature)
        humidity = '%.2f'%(humidity)
        aio.send(temperature_feed.key, str(temperature))
        aio.send(humidity_feed.key, str(humidity))
    else:
        print('Failed to get DHT22 Reading, trying again in ', DHT_READ_TIMEOUT, 'seconds')
    # Timeout to avoid flooding Adafruit IO
    time.sleep(DHT_READ_TIMEOUT)
```

```python
import time
from random import randint
file=open("data.txt","a")
n=5
for i in range(n):
    humidity=randint(0,100)+1
    temperature=randint(-100,100)+1
    if humidity>45:
        print("\n \n Humidity High")
        print(humidity)

        file.write("\nHumidity")
        file.write(str(humidity))

    if temperature>30:
        print("Temperature High")
        print( temperature)

        file.write("\nTemperature")
        file.write(str(temperature))
    time.sleep(1)
file.close()
```

```
Python 3.10.0 (tags/v3.10.0:b494f59, Oct  4 2021, 19:00:18) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information
.
>>>
=============== RESTART: C:/Users/KAVIYA-S/Python Team Lead.py =======
=========
Temperature High
93


 Humidity High
82
Temperature High
36
Temperature High
57


 Humidity High
60
Temperature High
48


 Humidity High
55
>>>
```