ASSIGNMENT 2

Assignment Date	21 September 2022
Student Name	Mr. Abdul Gani.J
Student Roll Number	721719106001
Maximum Marks	2 Marks

Question 1 :

Build a python code assume you get temperature and humidity values(generated with random function to a variable)and write a condition to continuously detect alarm in case of high temperature.

Solution:

```python
# 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).

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
```

```python
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)
```