ASSIGNMENT 2

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| Assignment Date | 21 September 2022 |
| Student Name | Mr. Balakrishnan G |
| Student Roll Number | 721719106009 |
| 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:**

# 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

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)