

ASSIGNMENT 2

COURSE: Naan Mudhalvan (Internet of Things)

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Question:

Build Python code, Generate Temperature and Humidity values (Use Random function to generate values) and write a condition to detect an alarm in case of high temperature and high Humidity.

Example: Temp is greater than 30 c, play alarm sound. Same for humidity.

Requirements:

- Python compiler

PROGRAM:

```
import random

temperature = random.uniform(20.0, 70.0)
humidity = random.uniform(20.0, 70.0)

if temperature > 30.0 and humidity > 30.0:
    print(f"Temperature: {temperature:.2f}°C, Humidity: {humidity:.2f}%")
    print("Alarm: High temperature and high humidity detected!")

elif temperature < 30.0 and humidity > 30.0:
    print(f"Temperature: {temperature:.2f}°C, Humidity: {humidity:.2f}%")
    print("Alarm:High humidity detected!")

elif temperature > 30.0 and humidity < 30.0:
    print(f"Temperature: {temperature:.2f}°C, Humidity: {humidity:.2f}%")
    print("Alarm:High temperature detected!")

else:
    print("No Alarm!")
    print(f"Temperature: {temperature:.2f}°C, Humidity: {humidity:.2f}%")
```

OUTPUT:

```
Python 3.10.11 (tags/v3.10.11:7d4cc5a, Apr 5 2023, 00:38:17) [MSC v.1929 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:/python/nm_2.py =====
Temperature: 58.37°C, Humidity: 63.77%
Alarm: High temperature and high humidity detected!
>>>
===== RESTART: E:/python/nm_2.py =====
Temperature: 24.31°C, Humidity: 64.02%
Alarm: High humidity detected!
>>>
===== RESTART: E:/python/nm_2.py =====
Temperature: 31.95°C, Humidity: 26.52%
Alarm: High temperature detected!
>>>
===== RESTART: E:/python/nm_2.py =====
No Alarm!
Temperature: 20.27°C, Humidity: 20.31%
>>>
```