ASSIGNMENT-2

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Domain: IoT

(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)

Python Code:

```
assignment2.py - D:\IBM\Assignment-2\assignment2.py (3.10.8)
File Edit Format Run Options Window Help
import random
# Generation of random temperature and humidity values
temperature = random.uniform(20.0, 40.0) # temperature in degrees Celsius
humidity = random.uniform(30.0, 70.0) # rhumidity in percentage
# Check for high temperature and high humidity conditions
if temperature > 30.0 and humidity > 30.0:
    print("Current Temperature:", round(temperature,2), "°C")
    print("Current Humidity:", round(humidity,2), "%")
    print("High temperature and high humidity detected!")
    print("----")
# If only the temperature exceeds its threshold, we print a warning message
elif temperature > 30.0:
    print("Current Temperature:", round(temperature,2), "°C")
    print("Current Humidity:", round(humidity,2), "%")
    print("Warning: High temperature detected!")
# If only the humidity exceeds its threshold, we print a warning message
elif humidity > 30.0:
    print("Current Temperature:", round(temperature,2), "°C")
    print("Current Humidity:", round(humidity,2), "%")
    print("Warning: High humidity detected!")
# If neither condition is met, we turn the alarm off
else:
    print("Current Temperature:", round(temperature,2), "°C")
    print("Current Humidity:", round(humidity,2), "%")
    print("Everything looks fine!")
    print("----")
```

Output:

```
lDLE Shell 3.10.8
File Edit Shell Debug Options Window Help
  Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)]
  Type "help", "copyright", "credits" or "license()" for more information.
>>>
  Current Temperature: 19.62 °C
  Current Humidity: 52.3 %
  Warning: High humidity detected!
  Current Temperature: 15.85 °C
  Current Humidity: 22.7 %
  Everything looks fine!
  ----ALARM OFF-----
>>>
  Current Humidity: 52.65 %
  Warning: High humidity detected!
  ========= RESTART: D:\IBM\Assignment-2\assignment2.py =============
  Current Temperature: 11.45 °C
  Current Humidity: 23.4 %
  Everything looks fine!
      ----ALARM OFF-----
  Current Temperature: 37.24 °C
  Current Humidity: 58.27 %
  High temperature and high humidity detected!
   -----ALARM ON-----
>>>|
```