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ASSIGNMENT-2

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.

CODE:

Main.py

import random

```
# Set threshold values

TEMP_THRESHOLD = 30 # in degrees Celsius

HUMIDITY_THRESHOLD = 70 # in percentage


# Generate random temperature and humidity values

temperature = round(random.uniform(20, 40), 1) # in degrees Celsius

humidity = round(random.uniform(40, 90), 1) # in percentage
```

```python
# Check if temperature or humidity is above threshold and trigger alarm
if temperature > TEMP_THRESHOLD and humidity > HUMIDITY_THRESHOLD:
    print("ALARM: High temperature and high humidity detected!")
elif temperature > TEMP_THRESHOLD:
    print("ALARM: High temperature detected!")
elif humidity > HUMIDITY_THRESHOLD:
    print("ALARM: High humidity detected!")
else:
    print(f"Temperature: {temperature} °C, Humidity: {humidity}%")
```

OUTPUT

Temperature: 21.0 °C, Humidity: 49.2%

SK 43.py - C:/Users/ELCOT/Desktop/SK 43.py (3.10.6)

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```python
import random

# Set threshold values
TEMP_THRESHOLD = 30 # in degrees Celsius
HUMIDITY_THRESHOLD = 70 # in percentage

# Generate random temperature and humidity values
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if temperature > TEMP_THRESHOLD and humidity > HUMIDITY_THRESHOLD:
    print("ALARM: High temperature and high humidity detected!")
elif temperature > TEMP_THRESHOLD:
    print("ALARM: High temperature detected!")
elif humidity > HUMIDITY_THRESHOLD:
    print("ALARM: High humidity detected!")
else:
    print(f"Temperature: {temperature} °C, Humidity: {humidity}%")
```

IDLE Shell 3.10.6

File Edit Shell Debug Options Window Help

```
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug  1 2022, 21:53:49) [MSC v.1932 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: C:/Users/ELCOT/Desktop/SK43.py ====================
Traceback (most recent call last):
  File "C:/Users/ELCOT/Desktop/SK43.py", line 8, in <module>
    temperature = random(0, 100)
TypeError: 'module' object is not callable
>>>
==================== RESTART: C:/Users/ELCOT/Desktop/SK43.py ====================
Temperature: 24.2 °C, Humidity: 55.7%
>>>
==================== RESTART: C:/Users/ELCOT/Desktop/SK 43.py ====================
Temperature: 24.0 °C, Humidity: 66.5%
>>>
```

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