

NAAN MUDHALVAN – PROFESSIONAL READINESS FOR INNOVATION, EMPLOYMENT AND ENTREPRENEURSHIP

ASSIGNMENT – 2

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|------------------------|---------------------|
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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.

- o Example: Temp is greater than 30 c, play alarm sound. Same for humidity.
- o Submit the Assignment in PDF format in the Git repo.
- o Everyone in the team should submit the assignment as it is an individual task.

Code:

main.py

```
import random
```

```
# Set the threshold values for temperature and humidity
```

```
TEMP_THRESHOLD = 85 # degrees Celsius HUMIDITY_THRESHOLD = 45 #  
percent
```

```
# Generate a random temperature value between 0 and 100 degrees
```

```
Celsius temperature = random.uniform(0, 100)
```

```
print("Temperature:", temperature)
```

```
# Generate a random humidity value between 0 and 100
```

```
percent
```

```
humidity = random.uniform(0, 100)
```

```
print("Humidity:", humidity)
```

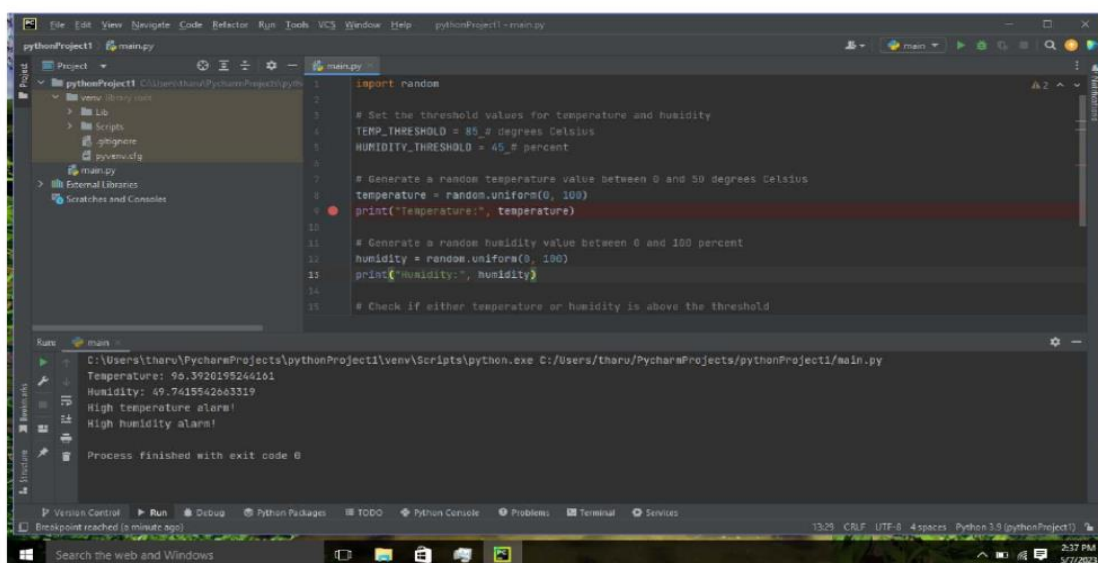
```
# Check if either temperature or humidity is above  
the threshold
```

```
if temperature > TEMP_THRESHOLD:
```

```
print("High temperature alarm!") if humidity>
HUMIDITY_THRESHOLD:
```

```
print("High humidity alarm!")
```

OUTPUT:



The screenshot shows a PyCharm IDE window with a Python script named `main.py` and its output in the Run console.

Script Code:

```
1 import random
2
3 # Set the threshold values for temperature and humidity
4 TEMP_THRESHOLD = 85_# degrees Celsius
5 HUMIDITY_THRESHOLD = 45_# percent
6
7 # Generate a random temperature value between 0 and 30 degrees Celsius
8 temperature = random.uniform(0, 100)
9 print("Temperature:", temperature)
10
11 # Generate a random humidity value between 0 and 100 percent
12 humidity = random.uniform(0, 100)
13 print("Humidity:", humidity)
14
15 # Check if either temperature or humidity is above the threshold
```

Run Console Output:

```
C:\Users\tharu\PycharmProjects\pythonProject1\venv\Scripts\python.exe C:/Users/tharu/PycharmProjects/pythonProject1/main.py
Temperature: 96.3920195244161
Humidity: 49.7415542663319
High temperature alarm!
High humidity alarm!
Process finished with exit code 0
```

The output shows that the generated temperature (96.39) is above the threshold (85) and the generated humidity (49.74) is above the threshold (45), resulting in both "High temperature alarm!" and "High humidity alarm!" messages.

