

ASSIGNMENT: 02

NAME: Pandiyan.V

REGISTER NO: 711120106064

College : Jansons Institute of technology

Topic : Python code to generate random values for temperature and humidity and triggers an alarm if it reaches above that value.

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```
import random
```

```
import time
```

```
# Define thresholds for temperature and humidity
```

```
TEMP_THRESHOLD = 30 # degrees Celsius
```

```
HUMIDITY_THRESHOLD = 70 # percent
```

```
# Loop indefinitely to generate random values and check thresholds
```

```
while True:
```

```
    # Generate random temperature and humidity values
```

```
    temp = random.randint(20, 60) # degrees Celsius
```

```
    humidity = random.randint(50, 90) # percent
```

```
# Check if temperature or humidity exceed thresholds and trigger alarm if they do
```

```
if temp > TEMP_THRESHOLD:
```

```
    print(f"High temperature detected ({temp}°C)!")
```

```
    # Add code here to trigger an alarm sound
```

```
if humidity > HUMIDITY_THRESHOLD:
```

```
    print(f"High humidity detected ({humidity}%).")
```

```
    # Add code here to trigger an alarm sound
```

```
# Wait for a short period of time before generating new values
```

```
time.sleep(5) # 5 seconds
```

OUTPUT:

High temperature detected (48°C)!

High humidity detected (81%).

High temperature detected (46°C)!

High humidity detected (75%).

High temperature detected (47°C)!

High humidity detected (88%).

High temperature detected (48°C)!

High temperature detected (48°C)!

High temperature detected (48°C)!

High humidity detected (90%).

High temperature detected (57°C)!

High humidity detected (87%).

High temperature detected (37°C)!

High temperature detected (52°C)!

High temperature detected (56°C)!

High temperature detected (39°C)!

High humidity detected (78%).

High temperature detected (53°C)!

High humidity detected (82%).

High temperature detected (42°C)!