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)!