College code: 4212
Register num: 421221106003

ENVIRONMENTAL MONITORING

GROUP -2

PHASE:3

This phase involves in designing of the steps that defining in each phase of the previous documentation this involves developing a Python script on the IoT devices as per the project requirement.

To create a Python script for environmental monitoring using IoT devices, first we need to choose and connect the appropriate sensors to our IoT device. For this example, for this project we are using a Raspberry Pi as our IoT device and want to monitor temperature and humidity using a DHT22 sensor.

For this certain sensors are defined for this project.

In this phase each of the python script lines of the project is given as follows:

IBM NAAN MUDHULVAN PHASE3

```
#Import necessary libraries
import Adafruit_DHT
import time
import requests

# Define sensor type and pin
sensor = Adafruit_DHT.DHT22
pin = 4  # GPIO pin where the sensor is connected

# Define the URL where you will send the data
data_url = "http://your_server_url/endpoint" # Replace with your actual endpoint

def read_sensor_data():
    humidity, temperature = Adafruit_DHT.read_retry(sensor, pin)
    return humidity, temperature

def send_data_to_server(humidity, temperature):
    data = {'humidity': humidity, 'temperature': temperature}
    try:
        response = requests.post(data_url, json=data)
        if response.status_code == 200:
            print("Data sent successfully!")
        else:
            print(f"Failed to send data. Status code: {response.status_code}")
```

```
    except Exception as e:
        print(f"Error: {e}")

def main():
    try:
        while True:
            humidity, temperature = read_sensor_data()
            print(f"Temperature: {temperature}°C, Humidity: {humidity}%")
            send_data_to_server(humidity, temperature)
            time.sleep(60) # Adjust the interval as per your requirements
    except KeyboardInterrupt:
        pass

if _name_ == '_main_':
    main()
```