PHASE 3

DEVELOPMENT PART 1:

- Start building the IoT-enabled Environmental Monitoring in Parks system.
- Deploy IoT devices (e.g., temperature and humidity sensors) in various locations within public parks to measure environmental conditions.
- Develop a Python script on the IoT devices to send real-time environmental data to the monitoring platform.

PROGRAM :

```
#include <LiquidCrystal_I2C.h>
#include <DHT.h>
LiquidCrystal_I2C lcd(0x27, 16, 2);
#define DHTPIN 2
#define DHTTYPE DHT22
#define light 8
DHT dht(DHTPIN, DHTTYPE);

//Variables:
float H; //Humidity value
float T; //Temperature value

//Initialize LCD and DHT22 sensor:
void setup()
{
 lcd.init();
 lcd.backlight();
 dht.begin();
```

```cpp
  pinMode(light,OUTPUT);
 // Print some text in Serial Monitor
Serial.begin(9600);
 Serial.println("DHT22 sensor with Arduino Uno R3!");
}

void loop()
 {
 delay(2000);
 // Read data and store it to variables humidity and
temperature
 H = dht.readHumidity();
 T = dht.readTemperature();
 // Print temp and humidity values to serial monitor
 Serial.print("Humidity: ");
 Serial.print(H);
 Serial.println(" %; ");
 Serial.print("Temperature: ");
 Serial.print(T);
 Serial.println(" Celsius.\n");

 if (H >= 70.00 && T >= 30.00)
{
 digitalWrite(light,HIGH);
 lcd.println(" Too warm! ");
 lcd.setCursor(0, 1);
lcd.println(" Cool down! ");
 lcd.setCursor(0, 0);
 delay(2000);
 digitalWrite(light,LOW);
 }
```

```
else
{
lcd.println("Temp & humi is");
lcd.setCursor(0, 1);
lcd.println("in normal limits");
lcd.setCursor(0, 0);
}
if (H < 70.00 && T >= 30.00)
{
lcd.println("Be ware! ");
lcd.setCursor(0, 1);
lcd.println("Temp. too high! ");
lcd.setCursor(0, 0);
}
if (H >= 70.00 && T < 30.00)
{
lcd.println("Be ware!" );
}
}
```

Temp & humi is
in normal limits