**CODE WORKING EXPLANATION**

Libraries and Initial Setup:

The sketch uses several libraries to manage different tasks: `LiquidCrystal\_I2C` controls the LCD display, `ESP8266WiFi` and `BlynkSimpleEsp8266` handle Wi-Fi connectivity and Blynk integration, and `DHT` reads data from the DHT11 temperature and humidity sensor.

Several global variables are defined to manage the components: `lcd` manages the LCD display, `auth`, `ssid`, and `pass` store your Blynk authentication token and Wi-Fi credentials, `dht` represents the DHT11 sensor, and `timer` schedules regular tasks using Blynk’s timer. The pins for the soil moisture sensor and PIR motion sensor are assigned to `soil` and `PIR`, respectively. `PIR\_ToggleValue` controls the state of the PIR sensor. The states of the relay and push button are tracked by `relay1State` and `pushButton1State`. Pin assignments for the relay and push button are stored in `RELAY\_PIN\_1`, `PUSH\_BUTTON\_1`, and `VPIN\_BUTTON\_1`.

Setup Function:

The setup function initializes serial communication for debugging, configures pins for the PIR sensor, relay, and push button, and connects to Blynk using your credentials. The DHT sensor is initialized, and timers are set up to call the sensor functions at regular intervals.

Sensor Functions:

The `DHT11sensor` function reads temperature and humidity from the DHT11 sensor, sends these readings to the Blynk app, and displays the readings on the LCD screen. The `soilMoistureSensor` function reads the soil moisture level, maps the raw value to a percentage, sends the moisture level to the Blynk app, and displays the value on the LCD screen. The `PIRsensor` function checks the PIR sensor for motion, logs an event, and turns on an LED in the Blynk app if motion is detected.

Blynk Functions:

The `BLYNK\_WRITE(V6)` function toggles the state of the PIR sensor based on input from the Blynk app. The `BLYNK\_CONNECTED` function syncs the virtual button state with the Blynk app when the device connects. The `BLYNK\_WRITE(VPIN\_BUTTON\_1)` function updates the relay state based on input from the Blynk app.

Physical Button Check:

The `checkPhysicalButton` function monitors the physical push button to toggle the relay state and updates the relay state in the Blynk app.

Main Loop:

The main loop updates the LCD display with the current PIR sensor state and relay state, and runs Blynk and the timer to handle scheduled tasks.