**ESP8266 and Relay**

Internet of things (IoT)

Name: Ahmed Mamnoon

Villa college student ID: S2200763

UWE student ID: 22032649

Components Needed:

- ESP8266 module

- Micro:bit

- Relay module

- Light bulb and socket

- Jumper wires

- Power source

1. Set Up the ESP8266:

- Connect the ESP8266 to your computer via USB.

2. Control Relay Using ESP8266:

- Test the setup by turning the relay on and off using the ESP8266.

3. Micro:bit Integration:

- Write a Micro:bit program using MicroPython that allows you to wirelessly control the relay via the micro:bit's radio communication.

- You can use buttons or gestures on the micro:bit to trigger the relay state changes.

- The micro:bit can send a signal to the ESP8266 through the radio communication whenever you want to turn the relay on or off.

4. Physical Setup:

- Connect the relay to the light bulb socket in a way that it can control the power to the bulb.

- Connect the ESP8266 to the relay module using jumper wires. Ensure you wire the control pin of the relay to the appropriate GPIO pin on the ESP8266.

- Power the ESP8266 and the relay module using a suitable power source.

5. Testing:

- Test the entire setup. Use the micro:bit to send commands to the ESP8266 to turn the light bulb on and off.

- Ensure that the communication between the micro:bit and the ESP8266 works reliably.