Push Button and LED control with the Arduino.ino

Hardware Required

- Arduino Uno
- Relay DPDT
- LED
- Button
- Resistor
- Wires
- Breadboard
- Light bulb
- 9V Battery

Steps :

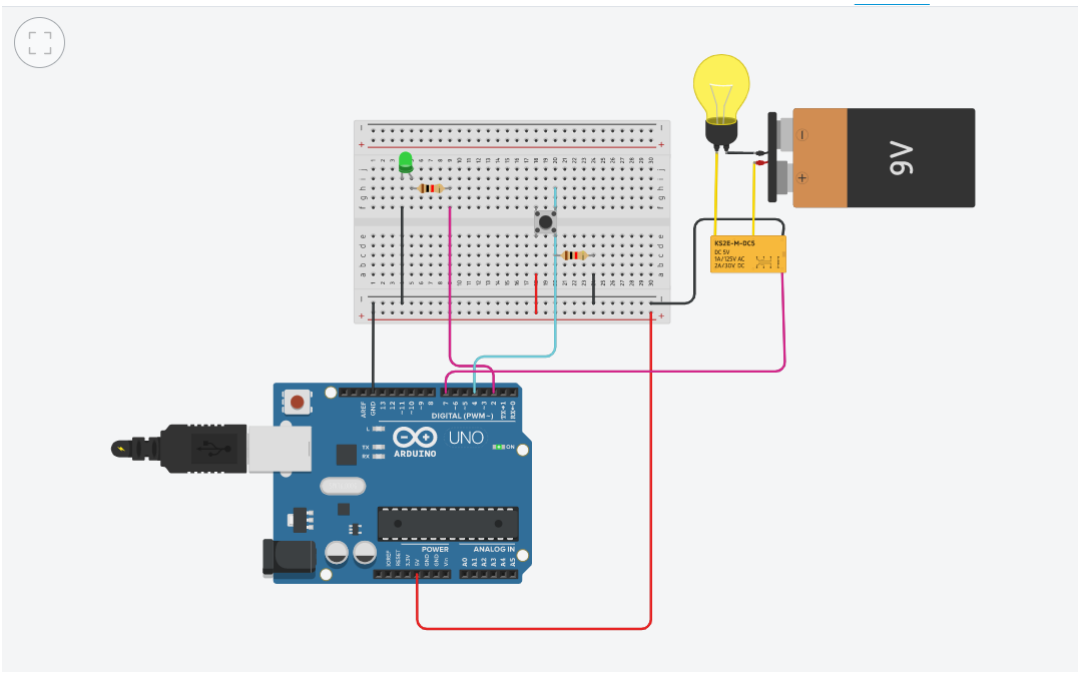
- LED attach to board .
- Resistor connect to LED's long leg (+).
- The wire connect to resistor's other leg .
- Wire connect to digital pin 2 from resistor.
- Wire connect to LED's short leg , after that wire connect to ground from LED.
- The button attach to board .
- Resistor connect to button leg .
- wire connect to resistor leg , after that wire connect ground from resistor .
- wire connect to button's other leg , after that connect to 5V from button .
- Wire connect to button's top leg , after that connect to digital pin4 from button .
- The negative line of the battery is connected directly to the bulb.
- The positive right is connected to the com and then enters the Nc bulb.

The Code :

```
#define LED_PIN 2
#define BUTTON_PIN 4
#define Relay_PIN 7


byte lastButtonState = LOW;
byte ledState = LOW;



void setup() {
```

```
  pinMode(LED_PIN, OUTPUT);
  pinMode(BUTTON_PIN, INPUT);
  pinMode(Relay_PIN, OUTPUT);
}
void loop() {
  byte buttonState = digitalRead(BUTTON_PIN);
  if (buttonState != lastButtonState) {
    lastButtonState = buttonState;
    if (buttonState == LOW) {
      ledState = (ledState == HIGH) ? LOW: HIGH;
      digitalWrite(LED_PIN, ledState);
      digitalWrite(Relay_PIN, ledState);
    }
  }
}
```

The simulation



Reference :

https://roboticsbackend.com/arduino-turn-led-on-and-off-with-button