

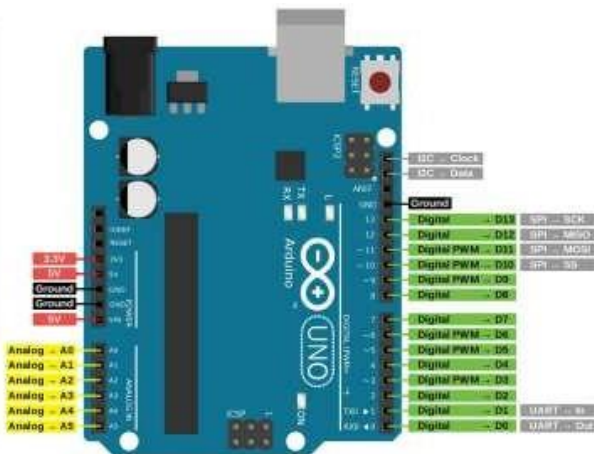
## Practical No. 3

**Aim: GPIO: Light the LED with Python with/without a button using either Uno /Raspberry Pi.**

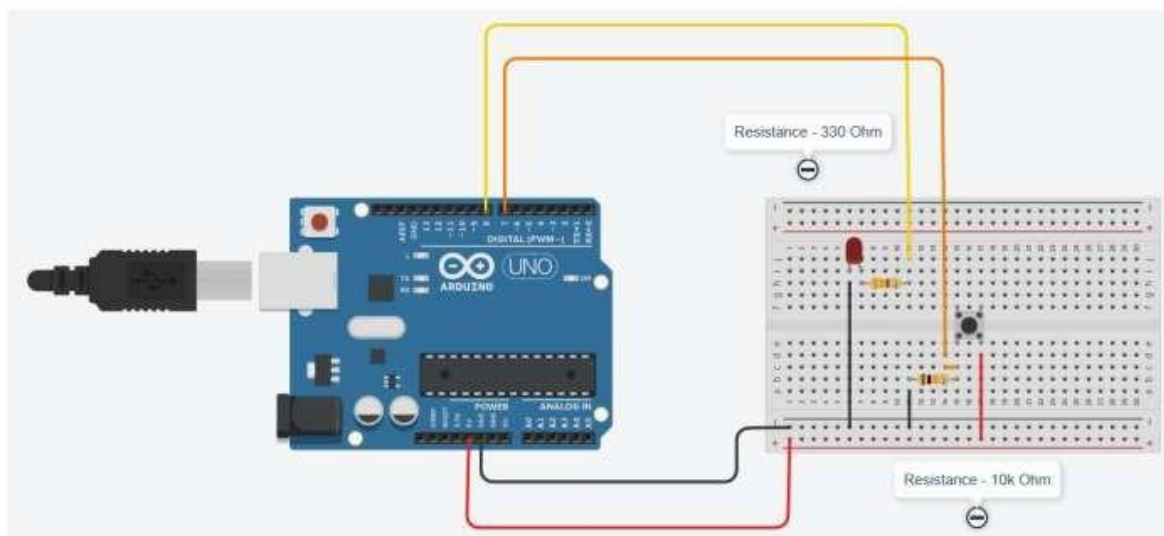
**(1) Logical (Arduino):**

**Code:**

```
1 #define LED_PIN 8
2 #define BUTTON_PIN 7
3
4 void setup() {
5     pinMode(LED_PIN, OUTPUT);
6     pinMode(BUTTON_PIN, INPUT);
7 }
8 void loop()
9 {
10     if (digitalRead(BUTTON_PIN) == HIGH)
11     {
12         digitalWrite(LED_PIN, HIGH);
13     } else {
14         digitalWrite(LED_PIN, LOW);
15     }
16 }
```



**Output:**



## (2) Physical (Raspberry Pi):

### Setup:

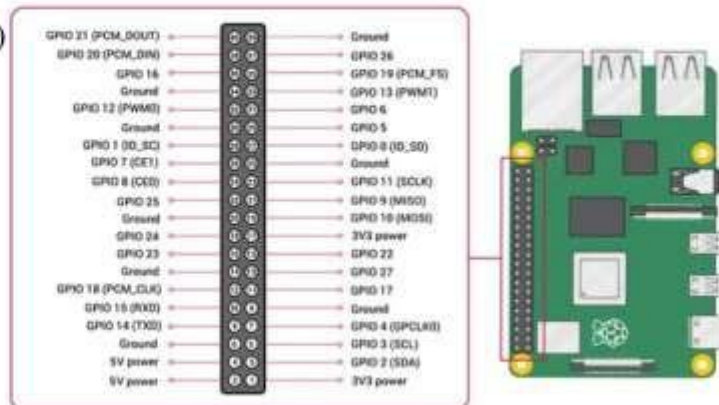
### Code:

```
import RPi.GPIO as GPIO
from time import sleep

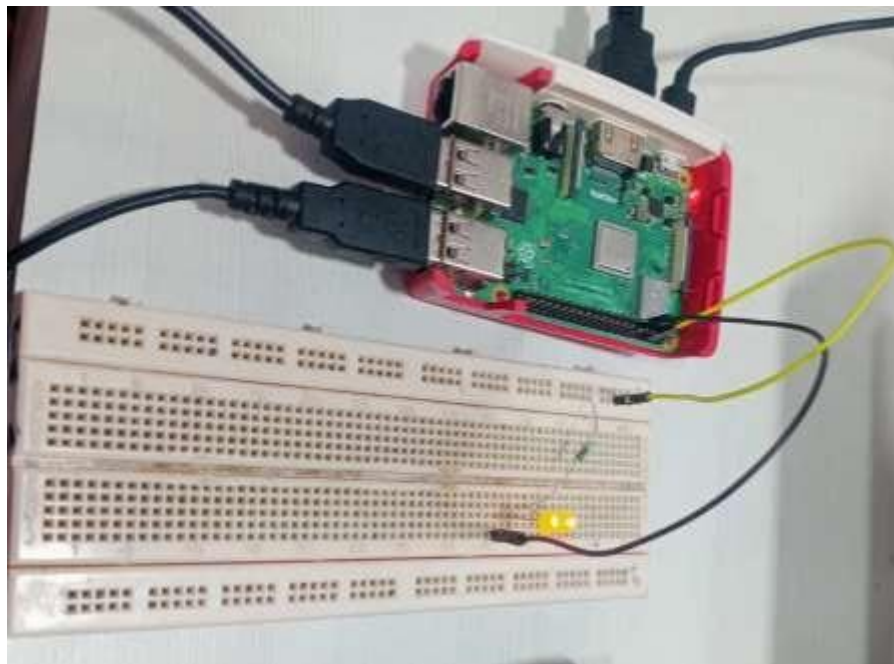
GPIO.setmode(GPIO.BCM)
LedPin = 22
GPIO.setup(LedPin, GPIO.OUT)

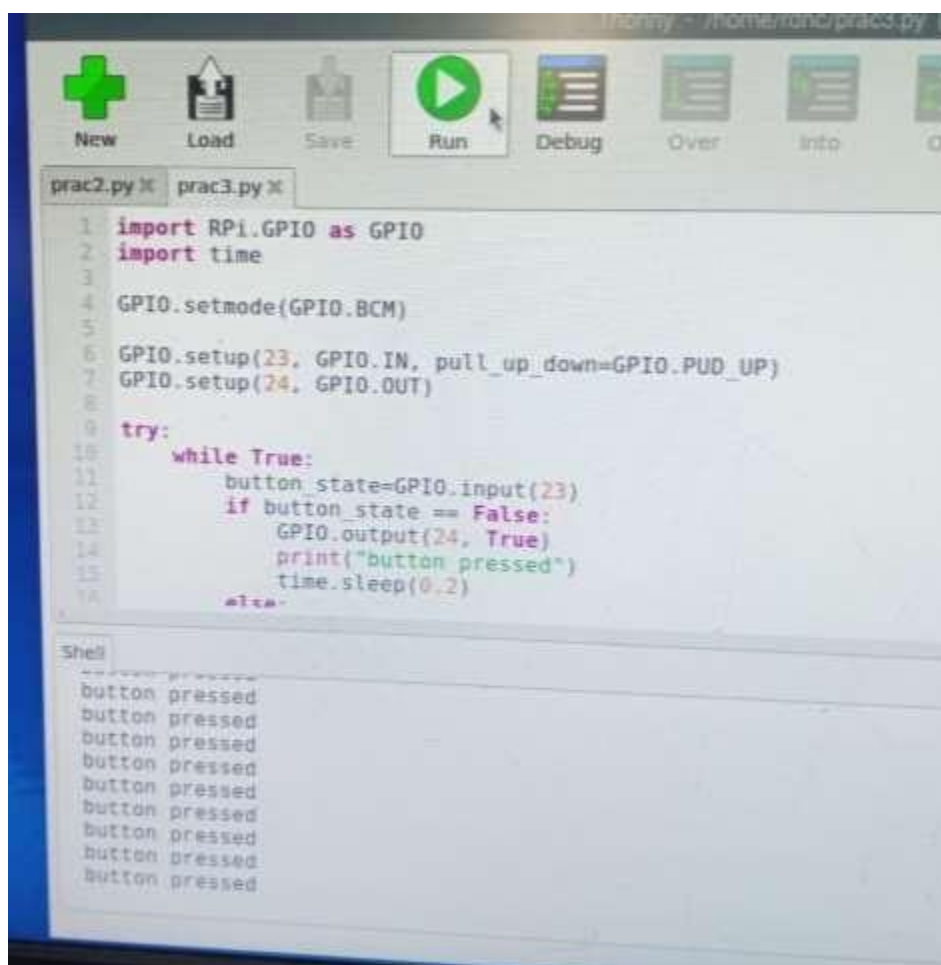
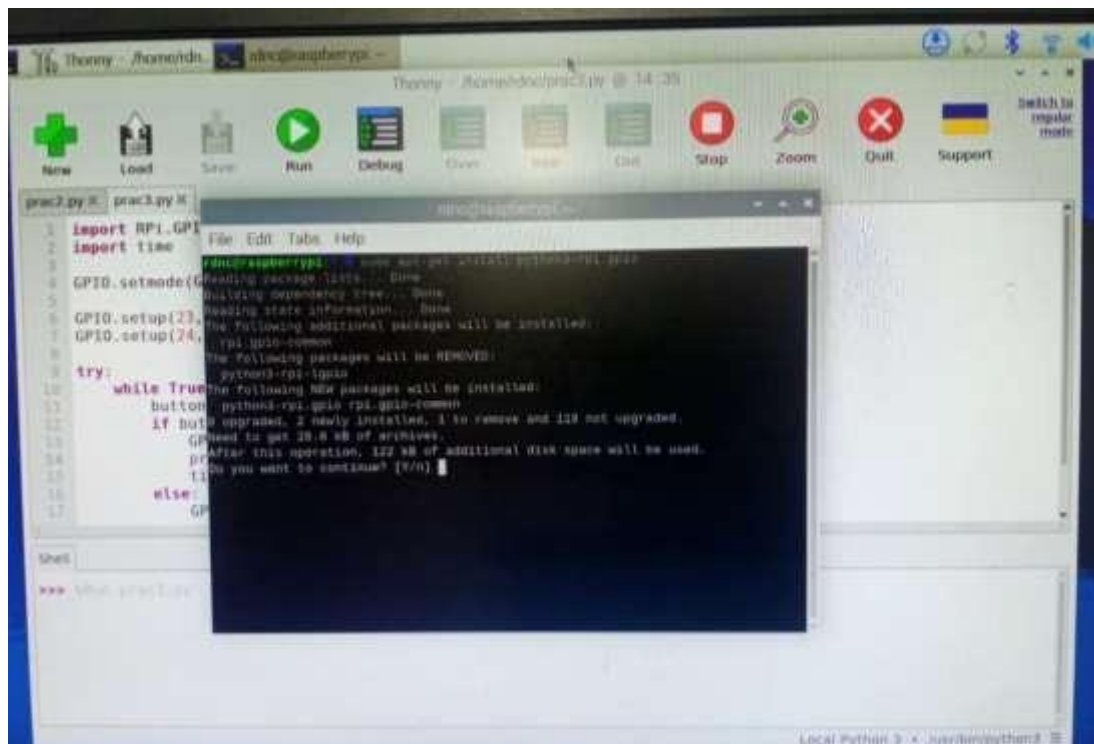
try:
    while True:
        GPIO.output(LedPin, True)
        print("LED ON")
        sleep(2)
        GPIO.output(LedPin, False)
        print("LED OFF")
        sleep(1)

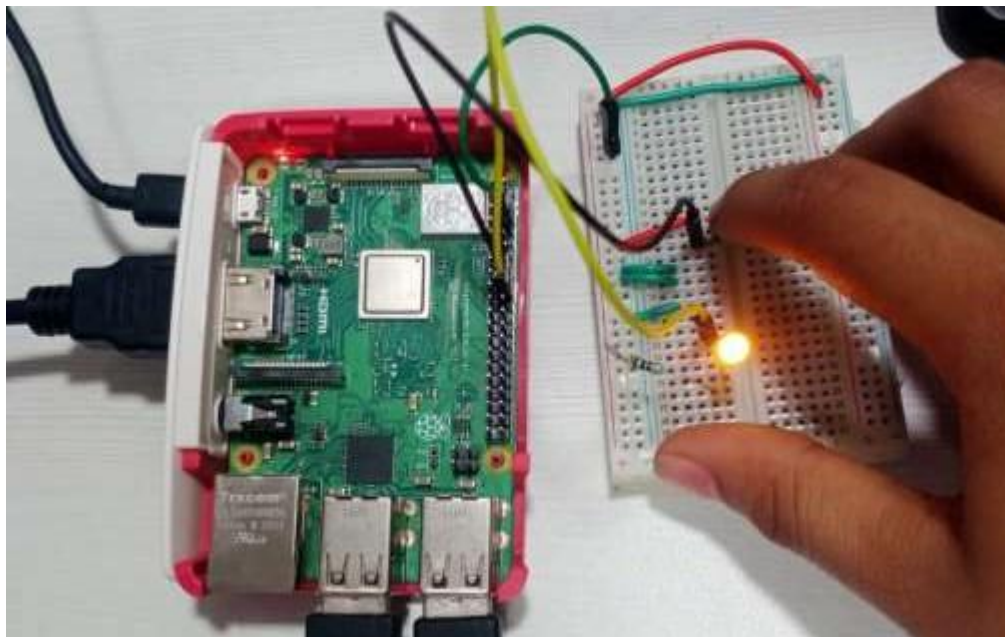
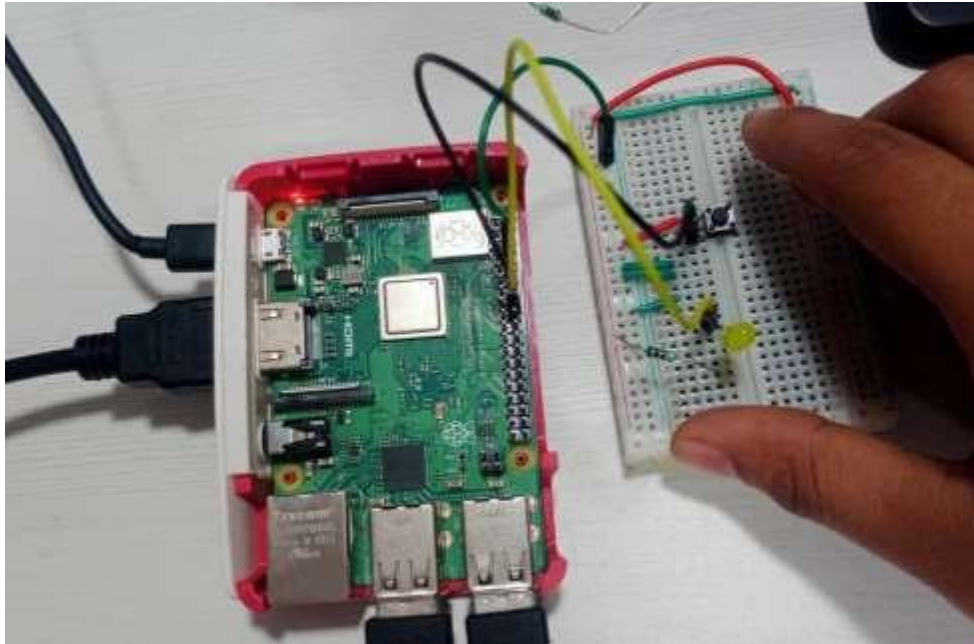
finally:
    GPIO.output(LedPin, False)
    GPIO.cleanup()
```



### Output:







**Conclusion:** Hence, we have successfully completed GPIO: Light the LED with Python with/without a button using either Uno/Raspberry Pi.