

Name - Yash Lakhtariya & Kirtan Patel

Enrollment number - 21162101012 & 21162101017

Branch - CBA Batch - 71

IOT Practical 2

AIM:

1. Interface LED with Arduino and using Push Button make LED On / Off

Materials used :

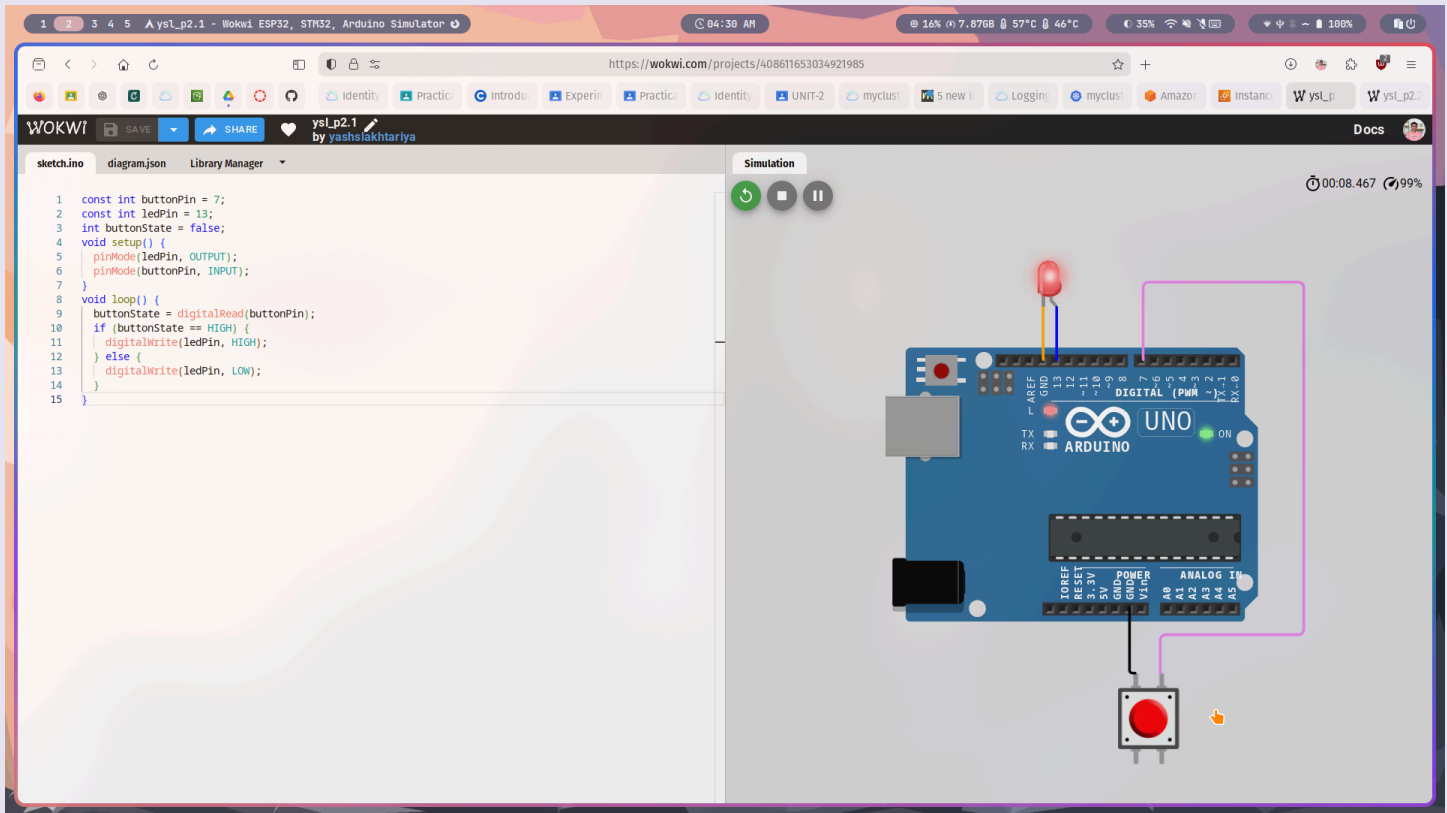
- Arduino Uno
- 1 LED
- 1 Push Button
- USB A to B cable

Code :

```
const int buttonPin = 7;
const int ledPin = 13;
int buttonState = false;
void setup() {
    pinMode(ledPin, OUTPUT);
    pinMode(buttonPin, INPUT);
}
void loop() {
    buttonState = digitalRead(buttonPin);
    if (buttonState == HIGH) {
        digitalWrite(ledPin, HIGH);
    } else {
        digitalWrite(ledPin, LOW);
    }
}
```

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Virtual Output :



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2. Fading LED with the help of Arduino.

Materials used :

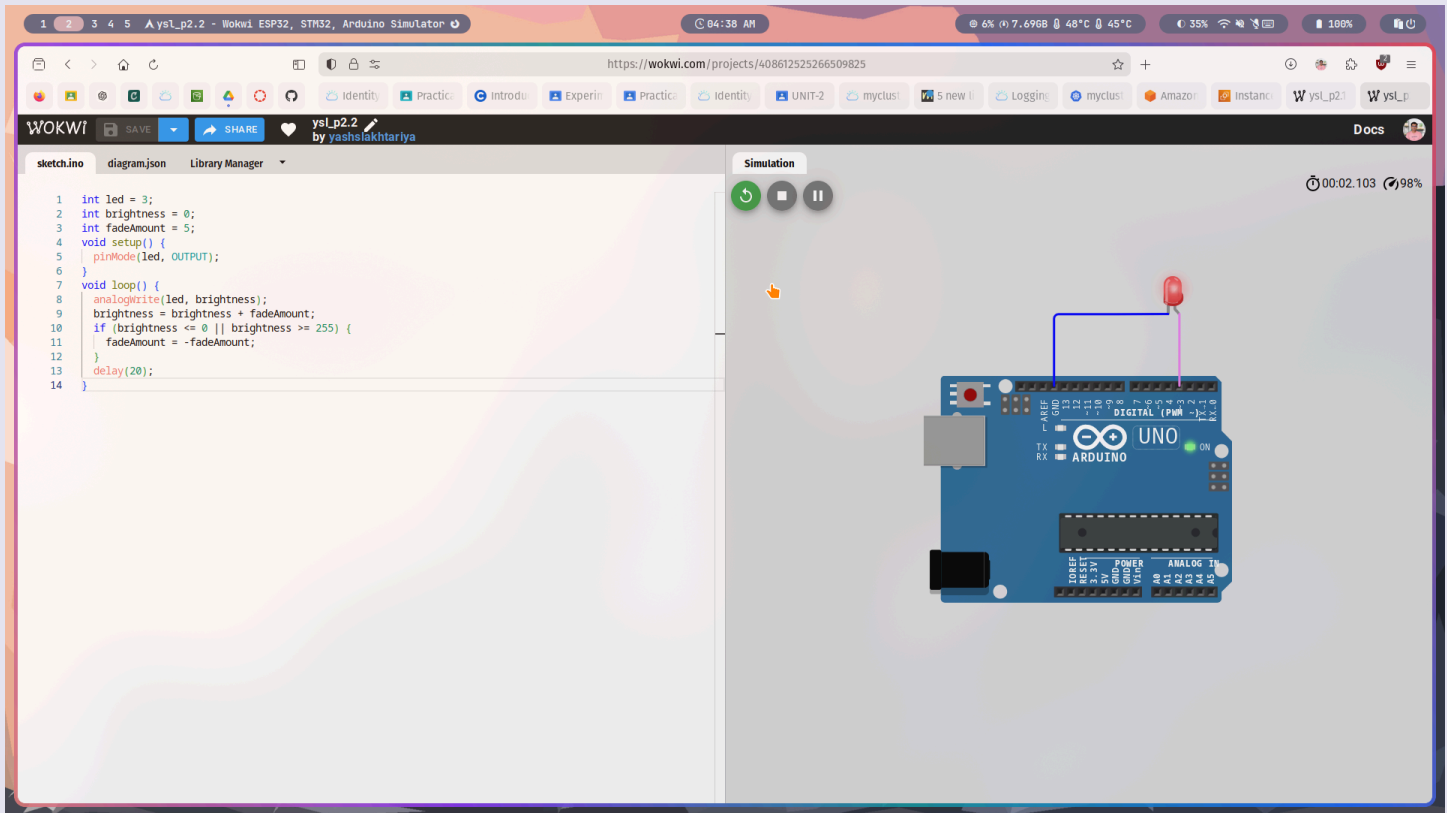
- Arduino Uno
- 1 LED
- USB A to B cable

Code :

```
int led = 3;
int brightness = 0;
int fadeAmount = 5;
void setup() {
    pinMode(led, OUTPUT);
}
void loop() {
    analogWrite(led, brightness);
    brightness = brightness + fadeAmount;
    if (brightness ≤ 0 || brightness ≥ 255) {
        fadeAmount = -fadeAmount;
    }
    delay(20);
}
```

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Virtual Output :



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Physical Output :



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