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**Sub: IoT**

**Practical – 2[Batch-71]**

Part-1: Push Button

Parts needed:

- 1) Resistor
- 2) LED
- 3) Push- button
- 4) Ardunouno

Code:

```
const int buttonPin = 2; // Pin connected to pushbutton
const int ledPin = 13; // Pin connected to LED
int buttonState = 0; // Give pushbutton a value

void setup() { pinMode(ledPin, OUTPUT); // Set LED pin as output
pinMode(buttonPin, INPUT); // Set pushbutton pin as input
} void loop() { buttonState = digitalRead(buttonPin); // Read input from pin 2
if(buttonState == HIGH) { // If pushbutton is pressed, set as HIGH
digitalWrite(ledPin, HIGH);
} else{ digitalWrite(ledPin, LOW);}}
```

**On condition:**

Wokwi - World's most advanced... x BLINKING LED WITH PUSH BUT x +

wokwi.com/projects/376002184027824129

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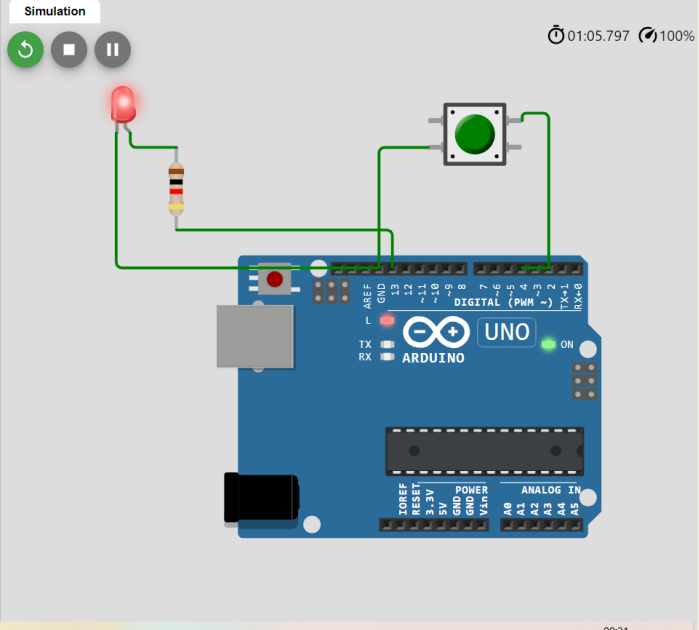
Docs SIGN IN

sketch.ino diagram.json Library Manager

```
1 const int buttonPin = 2; // Pin connected to pushbutton
2 const int ledPin = 13; // Pin connected to LED
3 int buttonState = 0; // Give pushbutton a value
4 void setup() { pinMode(ledPin, OUTPUT); // Set LED pin as output
5   pinMode(buttonPin, INPUT); // Set pushbutton pin as input
6 } void loop() { buttonState = digitalRead(buttonPin); // Read input from pin 2
7   if(buttonState == HIGH) { // If pushbutton is pressed, set as HIGH
8     digitalWrite(ledPin, HIGH);
9   } else{ digitalWrite(ledPin, LOW);}}
```

Simulation

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Off Condition:

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WOKWI SAVE SHARE

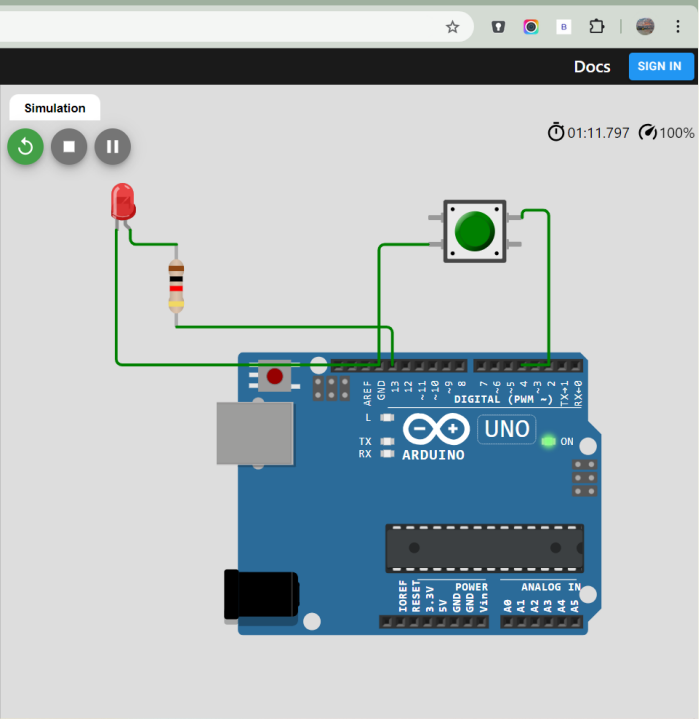
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sketch.ino diagram.json Library Manager

```
1 const int buttonPin = 2; // Pin connected to pushbutton
2 const int ledPin = 13; // Pin connected to LED
3 int buttonState = 0; // Give pushbutton a value
4 void setup() { pinMode(ledPin, OUTPUT); // Set LED pin as output
5   pinMode(buttonPin, INPUT); // Set pushbutton pin as input
6 } void loop() { buttonState = digitalRead(buttonPin); // Read input from pin 2
7   if(buttonState == HIGH) { // If pushbutton is pressed, set as HIGH
8     digitalWrite(ledPin, HIGH);
9   } else{ digitalWrite(ledPin, LOW);}}
```

Simulation

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Part-2: Fading LED with the help of Arduino.

**Part Needed:**

- 1) Ardunouno
- 2) LED
- 3) Male-female wire

**Code:**

```
#include <Arduino.h>
```

```
const int ledPin = 9; // Replace 9 with the actual pin number used
```

```
const int powerPin = 10; // Pin to control the 3.5V supply
```

```
void setup() {
```

```
    pinMode(ledPin, OUTPUT); // Set the LED pin as an output
```

```
    pinMode(powerPin, OUTPUT); // Set the power pin as an output
```

```
    digitalWrite(powerPin, HIGH); // Enable the 3.5V supply
```

```
}
```

```
void loop() {
```

```
    for (int brightness = 0; brightness <= 255; brightness++) {
```

```
        analogWrite(ledPin, brightness); // Gradually increase brightness
```

```
        delay(10); // Adjust delay for fading speed
```

```
    }
```

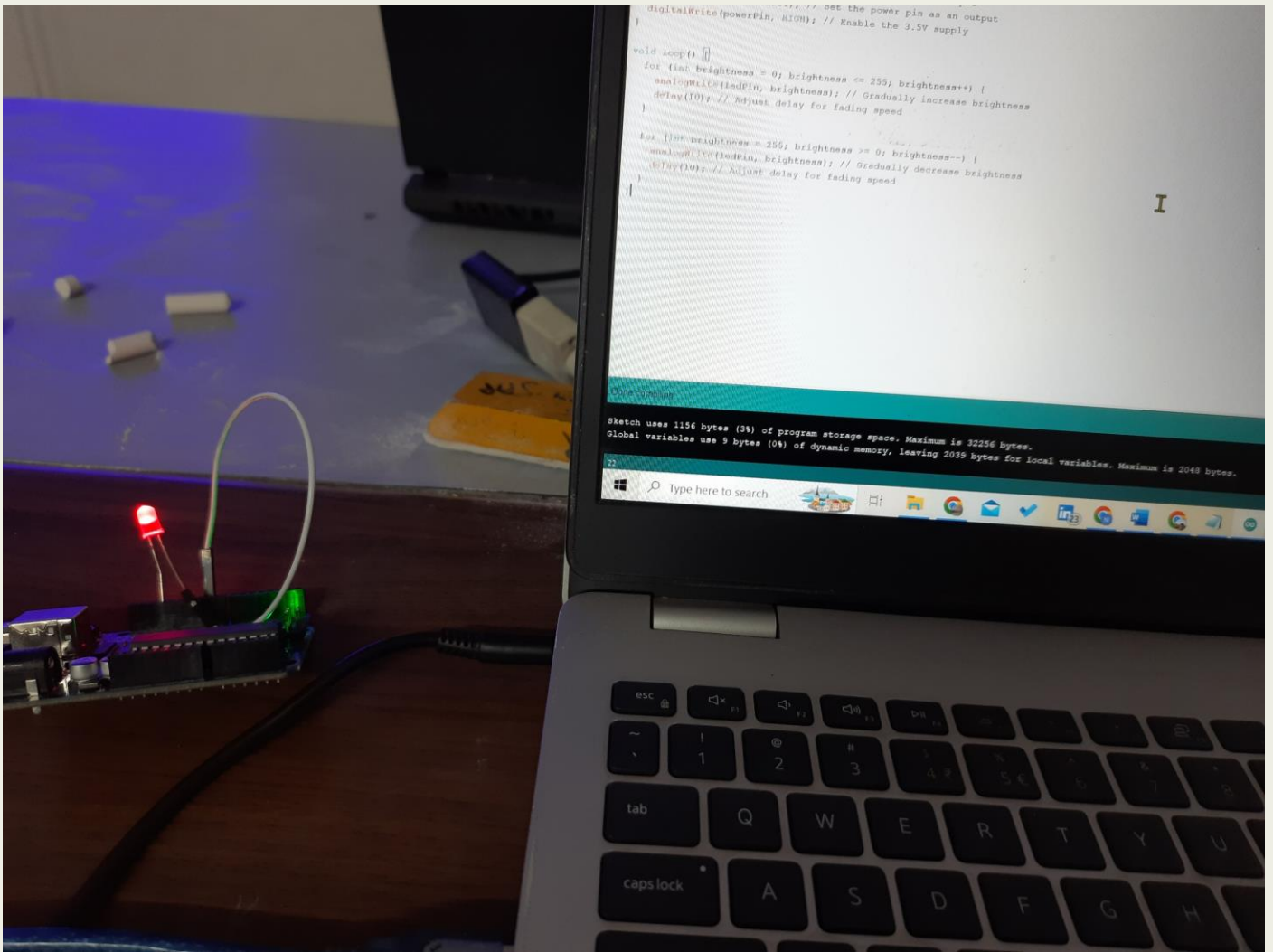
```
    for (int brightness = 255; brightness >= 0; brightness--) {
```

```
        analogWrite(ledPin, brightness); // Gradually decrease brightness
```

```
        delay(10); // Adjust delay for fading speed
```

```
    }
```

```
}
```



Drive Link:

<https://drive.google.com/file/d/15XNxqdtlCdTvIJCmkMoDVg2SgD-VFT7-/view?usp=sharing>