

ASSIGNMENT-3

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PROGRAM FOR TRAFFIC LIGHT

Python Code:

```
void setup() {  
  
    Serial1.begin(9600);  
    pinMode(21, OUTPUT);  
    pinMode(11, OUTPUT);  
    pinMode(19, OUTPUT);  
}  
  
void loop() {  
  
    digitalWrite(21, HIGH);  
    delay(3000);  
    digitalWrite(21, LOW);  
    digitalWrite(11, HIGH);  
    delay(1000);  
    digitalWrite(11, LOW);  
    digitalWrite(19, HIGH);  
    delay(3000);  
    digitalWrite(19, LOW);  
}
```

OUTPUT:

Traffic Lights For Raspberry Pi

Blinking Red Light:

The screenshot displays the Wokwi online simulator interface. On the left, the 'sketch.ino' file is open, showing the following code:

```
1 void setup() {  
2  
3   Serial1.begin(9600);  
4   pinMode(21, OUTPUT);  
5   pinMode(11, OUTPUT);  
6   pinMode(19, OUTPUT);  
7 }  
8  
9 void loop() {  
10  // put your main code here, to run repeatedly:  
11  digitalWrite(21, HIGH);  
12  delay(3000); // this speeds up the simulation  
13  digitalWrite(21, LOW);  
14  digitalWrite(11, HIGH);  
15  delay(1000);  
16  digitalWrite(11, LOW);  
17  digitalWrite(19, HIGH);  
18  delay(3000);  
19  digitalWrite(19, LOW);  
20 }  
21
```

On the right, the 'Simulation' window shows a Raspberry Pi Pico board connected to three LEDs (red, yellow, and green) via breadboard wiring. The red LED is currently lit, indicating it is in the HIGH state. The simulation controls at the top of the window include a play button, a stop button, and a 'Restart the simulation' button. The simulation progress bar shows a time of 00:00.983 and a battery level of 98%.

Blinking Yellow Light:

Project Design Phase-II - C x Technology Stack - Templa x IBM-Project-29824-16601 x Wokwi - Online Arduino an x New Raspberry Pi Pico Proj x wokwi-led Reference | Wok x +

wokwi.com/projects/new/pi-pico

WOKWI SAVE SHARE Docs

sketch.ino diagram.json Library Manager Simulation

```
1 void setup() {
2
3   Serial1.begin(9600);
4   pinMode(21, OUTPUT);
5   pinMode(11, OUTPUT);
6   pinMode(19, OUTPUT);
7 }
8
9 void loop() {
10  // put your main code here, to run repeatedly:
11  digitalWrite(21, HIGH);
12  delay(3000); // this speeds up the simulation
13  digitalWrite(21, LOW);
14  digitalWrite(11, HIGH);
15  delay(1000);
16  digitalWrite(11, LOW);
17  digitalWrite(19, HIGH);
18  delay(3000);
19  digitalWrite(19, LOW);
20 }
21
```

00:03.849 101%

Restart the simulation

Blinking Green Light:

Project Design Phase-II - C x Technology Stack - Templa x IBM-Project-29824-16601 x Wokwi - Online Arduino an x New Raspberry Pi Pico Proj x wokwi-led Reference | Wok x +

wokwi.com/projects/new/pi-pico

WOKWI SAVE SHARE Docs

sketch.ino diagram.json Library Manager Simulation

```
1 void setup() {
2
3   Serial1.begin(9600);
4   pinMode(21, OUTPUT);
5   pinMode(11, OUTPUT);
6   pinMode(19, OUTPUT);
7 }
8
9 void loop() {
10  // put your main code here, to run repeatedly:
11  digitalWrite(21, HIGH);
12  delay(3000); // this speeds up the simulation
13  digitalWrite(21, LOW);
14  digitalWrite(11, HIGH);
15  delay(1000);
16  digitalWrite(11, LOW);
17  digitalWrite(19, HIGH);
18  delay(3000);
19  digitalWrite(19, LOW);
20 }
21
```

00:04.999 98%

Restart the simulation

BLINKING LED:

PROGRAM FOR BLINKING LED:

Python code:

```
void setup() {  
  
    Serial1.begin(9600);  
    pinMode(22, OUTPUT);  
}  
  
void loop() {  
    digitalWrite(22, HIGH);  
    Serial.println("LED ON");  
    delay(1000);  
    digitalWrite(22, LOW);  
    Serial.println("LED OFF");  
    delay(1000);  
}
```

Output:

Blinking LED For Raspberry pi:

