

ASSIGNMENT 3

PROGRAM FOR TRAFFIC LIGHT

Python Code:

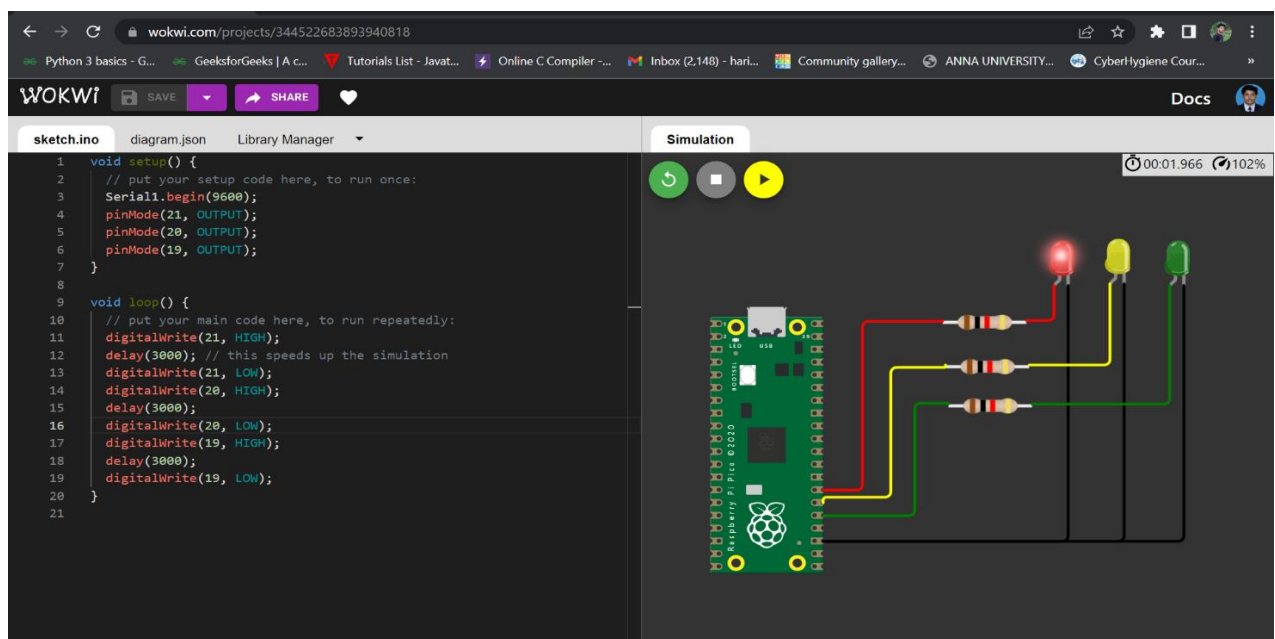
```
void setup() {
  // put your setup code here, to run once:
  Serial1.begin(9600);
  pinMode(21, OUTPUT);
  pinMode(20, OUTPUT);
  pinMode(19, OUTPUT);
}

void loop() {
  // put your main code here, to run repeatedly:
  digitalWrite(21, HIGH);
  delay(3000); // this speeds up the simulation
  digitalWrite(21, LOW);
  digitalWrite(20, HIGH);
  delay(3000);
  digitalWrite(20, LOW);
  digitalWrite(19, HIGH);
  delay(3000);
  digitalWrite(19, LOW);
}
```

OUTPUT:

Traffic Lights For Raspberry Pi

Blinking Red Light:



Blinking Yellow Light:

Wokwi Arduino IDE interface showing a sketch for a blinking yellow light simulation.

Sketch Code (sketch.ino):

```
1 void setup() {  
2   // put your setup code here, to run once:  
3   Serial1.begin(9600);  
4   pinMode(21, OUTPUT);  
5   pinMode(20, 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(20, HIGH);  
15  delay(3000);  
16  digitalWrite(20, LOW);  
17  digitalWrite(19, HIGH);  
18  delay(3000);  
19  digitalWrite(19, LOW);  
20 }  
21
```

Simulation: The simulation shows a Raspberry Pi Pico board connected to three LEDs (red, yellow, and green) via resistors. The yellow LED is currently lit, indicating the current state of the simulation. The simulation controls (play, stop, reset) and a 'Resume' button are visible. The timer shows 00:03.932 and 101% zoom.

Blinking Green Light:

Wokwi Arduino IDE interface showing a sketch for a blinking green light simulation.

Sketch Code (sketch.ino):

```
1 void setup() {  
2   // put your setup code here, to run once:  
3   Serial1.begin(9600);  
4   pinMode(21, OUTPUT);  
5   pinMode(20, 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(20, HIGH);  
15  delay(3000);  
16  digitalWrite(20, LOW);  
17  digitalWrite(19, HIGH);  
18  delay(3000);  
19  digitalWrite(19, LOW);  
20 }  
21
```

Simulation: The simulation shows a Raspberry Pi Pico board connected to three LEDs (red, yellow, and green) via resistors. The green LED is currently lit, indicating the current state of the simulation. The simulation controls (play, stop, reset) and a 'Resume' button are visible. The timer shows 00:06.798 and 99% zoom.

BLINKING LED:

PROGRAM FOR BLINKING LED:

Python code:

```
void setup() {  
  // put your setup code here, to run once:  
  Serial.begin(9600);  
  pinMode(22, OUTPUT);  
}  
  
void loop() {  
  // put your main code here, to run repeatedly:  
  digitalWrite(22, HIGH);  
  Serial.println("LED ON");  
  delay(2000);  
  digitalWrite(22, LOW);  
  Serial.println("LED OFF");  
  delay(2000);  
}
```

Output:

Blinking LED For Raspberry pi:

