

ASSIGNMENT 3

PROGRAM FOR TRAFFIC LIGHT

Python Code:

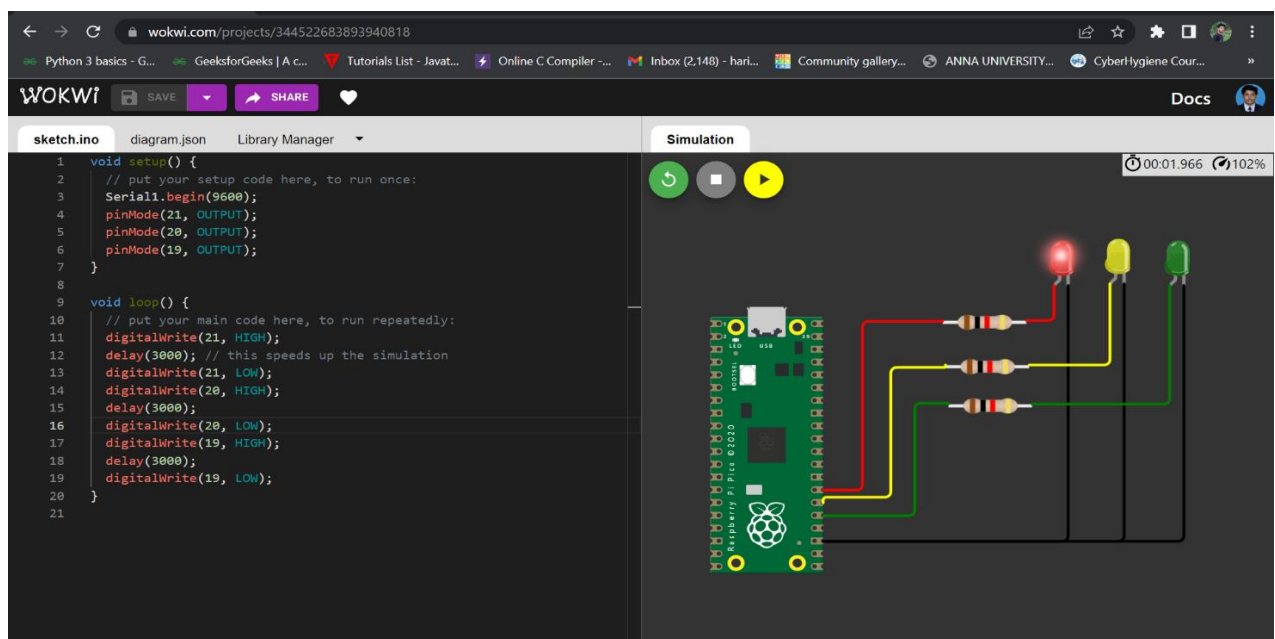
```
void setup() {
  // put your setup code here, to run once:
  Serial1.begin(9600);
  pinMode(21, OUTPUT);
  pinMode(20, OUTPUT);
  pinMode(19, OUTPUT);
}

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 it is HIGH.

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 it is HIGH.

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:

