Experiment – 5. Programming with Resperrypi Board Using Wokwi web Site

A. **Basic Experiment in Resberry Pi – LED Blink**
B. **Displaying Date on Serial Monitor**
C. **Automated Door Opening System**

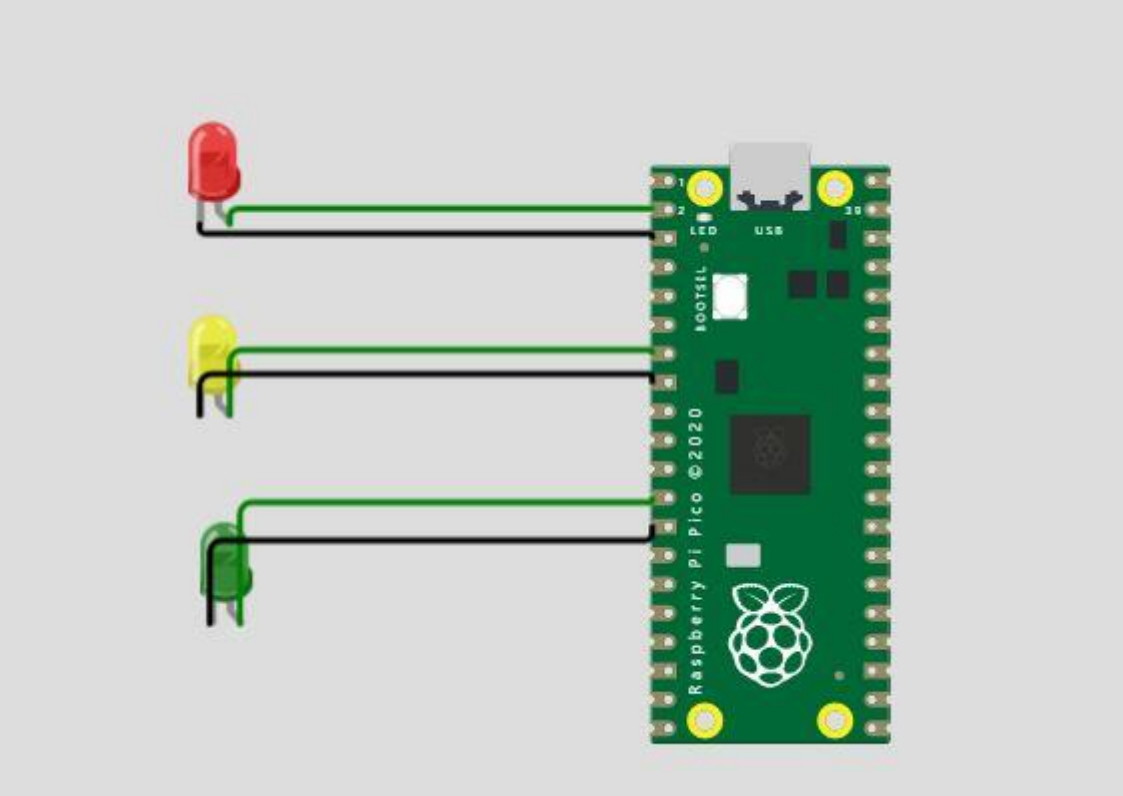
a) LED Blink using Resperry pi Board Using Wokwi web Site

Aim : To LED Blink LED using Raspberry pi Board Using Wokwi web portal

Apparatus Required

1. Raspberry pi Board
2. LED
3. Wires for connection

Circuit connection:



Code :

```
#define RED 1
#define YELLOW 5
#define GREEN 9
void setup() {
pinMode(RED,OUTPUT);
pinMode(YELLOW,OUTPUT);
pinMode(GREEN,OUTPUT);
}
```

```
void loop()
 {
 digitalWrite(GREEN,HIGH);
delay(3000);
digitalWrite(GREEN,LOW);
digitalWrite(YELLOW,HIGH);
delay(500);
digitalWrite(YELLOW,LOW);
digitalWrite(RED,HIGH);
delay(2000);
digitalWrite(YELLOW,HIGH);
delay(500);
digitalWrite(YELLOW,LOW);
}
```

OUTPUT

LED Will be display in Red ,Yellow & Green Colours depending upon the Delay given in the code.

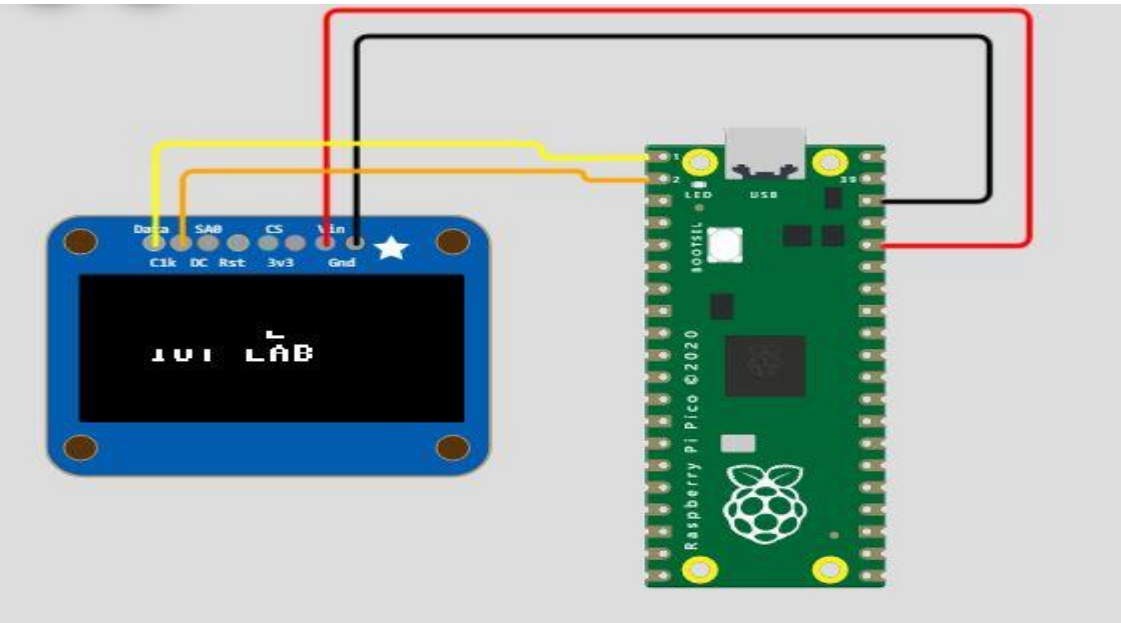
b) Displaying on Serial Monitor using Resperrypi Board Using Wokwi web Site

Aim : To displaying on Serial Monitor using Resperrypi Board Using Wokwi web portal

Appartus Required

1. Resperrypi Board
2. 7 segment Display
3. Wires for connection

Circuit connection :

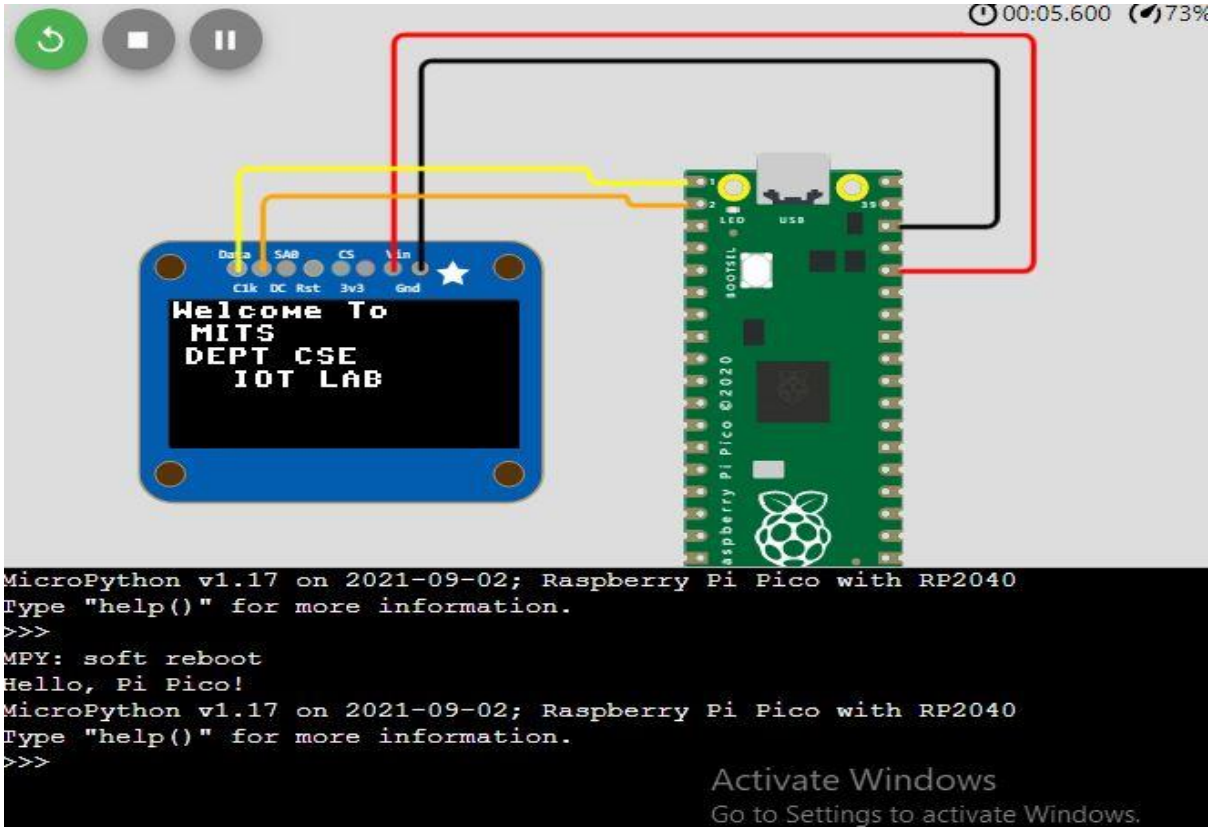


Code

```
print("Hello, Pi Pico!")
```

```
from machine import Pin, I2C
from ssd1306 import SSD1306_I2C
i2c=I2C(0,sda=Pin(0), scl=Pin(1), freq=400000)
oled = SSD1306_I2C(128, 64, i2c)
oled.text("Welcome To", 0, 0)
oled.text("MITS ", 7, 10)
oled.text("DEPT CSE ", 5, 20)
oled.text("IOT LAB", 22, 30)
oled.show()
oled.show()
```

Output



Output : Using the resperierrypi Board and 7 segment display output has been shown

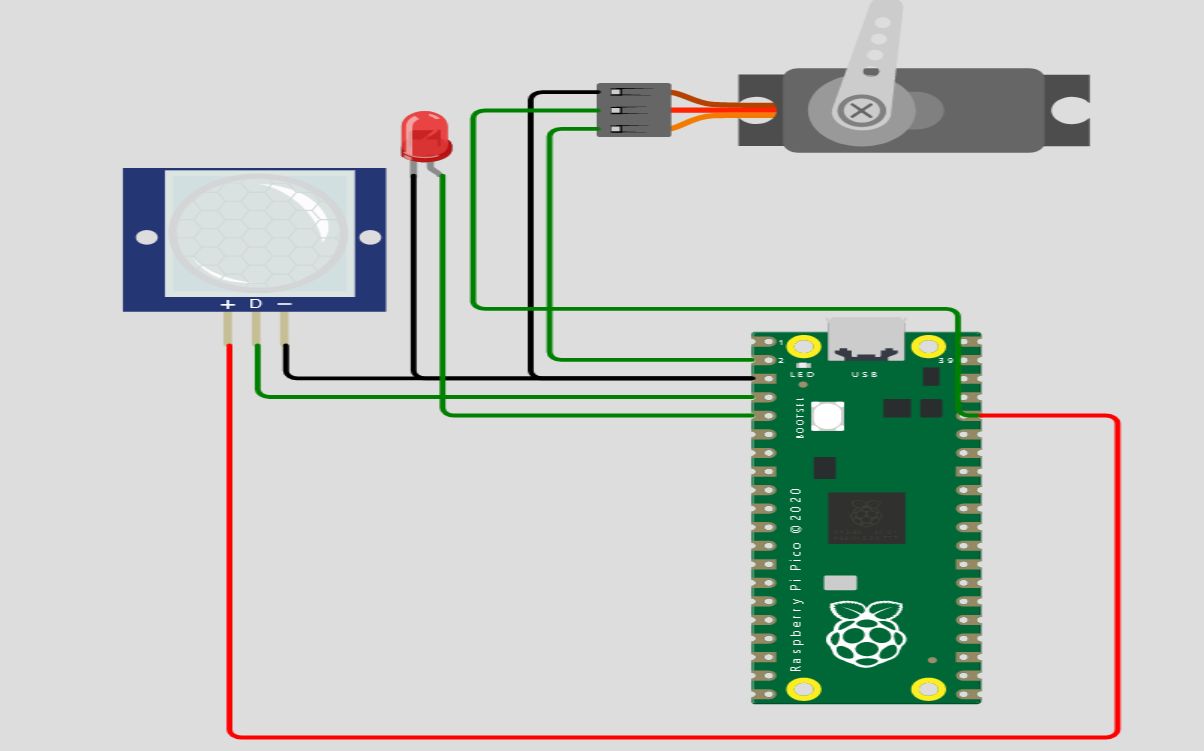
c) Automated Door Opening System using Resperrypi Board Using Wokwi web Site

Aim : To perform Automatic DOOR opening System using Resperrypi Board Using Wokwi web portal

Appartus Required

1. Resperrypi Board
2. Servo Moto
3. PIR sensor
4. Wires for connection

Circuit connection :



Code :

```
#define pir 2
#define led 3
#include<Servo.h>
Servo myservo;
void setup()
{
  pinMode(pir, INPUT);
  pinMode(led, OUTPUT);
  myservo.attach(1);
  Serial.begin(9600);
}

void loop()
{
  int val =digitalRead(pir);
  Serial.println(val);
  if(val==HIGH){
    digitalWrite(led,HIGH);
    myservo.write(70);
  }
  else{
    digitalWrite(led,LOW);
    myservo.write(10);
  }
  delay(10);
}
```

Output

Depending upon the PIR Input signal, the Servo motor will open and close the door automatically

Result: Using WOKWI website and Raspberry pi platform successfully created different application using PIR Sensor , serial monitor display reading data from Sensors and with servo motor and DC Motor perform different application.