Quiz #1

Lab3 Fall Flowing LED

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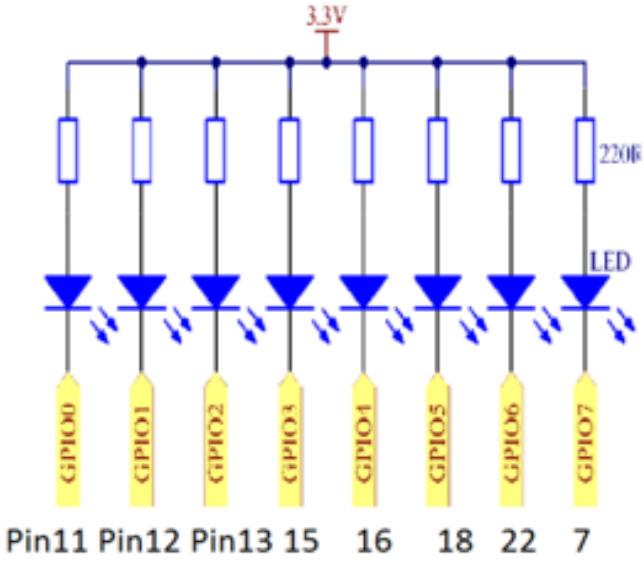


Output:

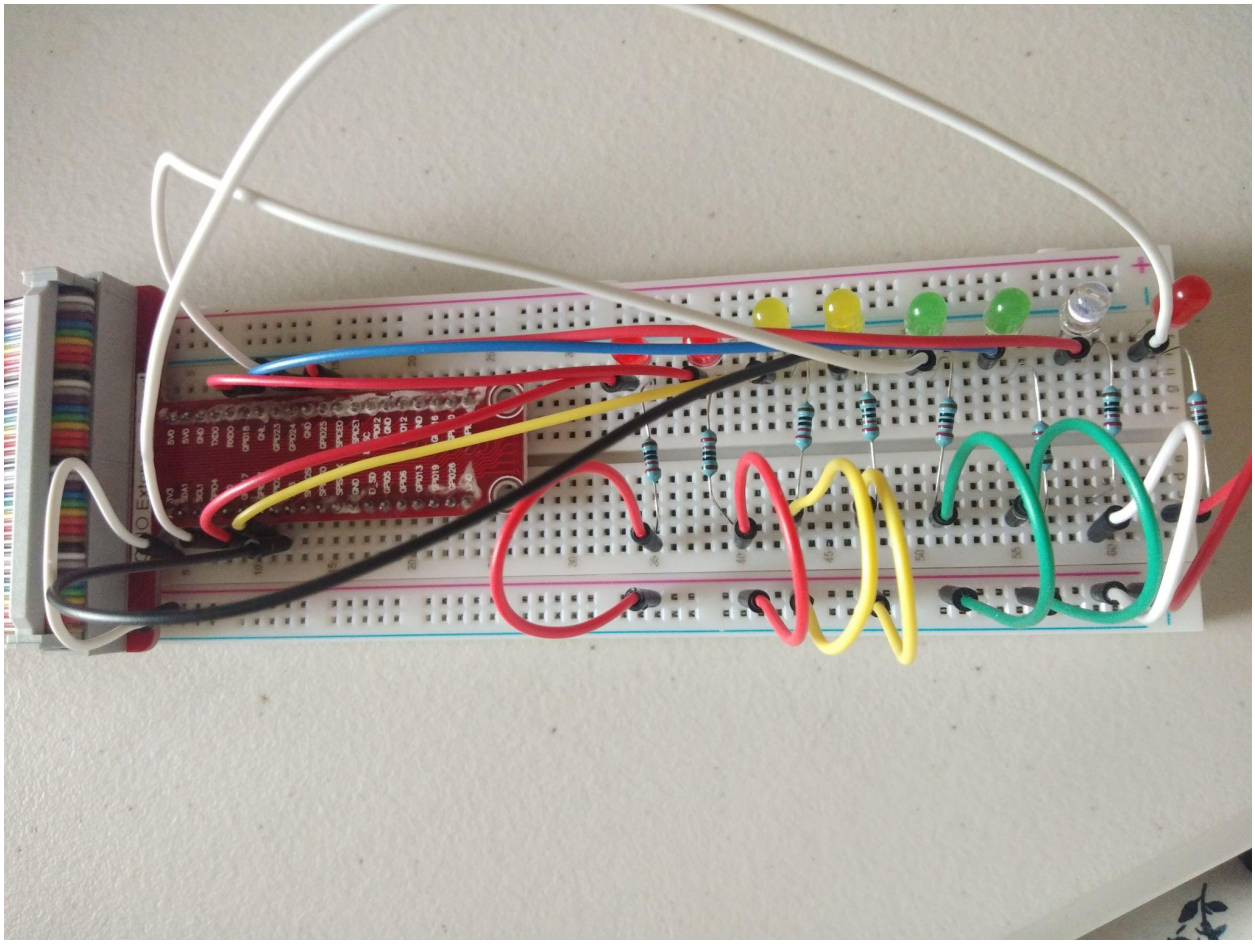
Output is shown through a video recording attached with the below link:

Fall_Flowing_LED[1].mp4

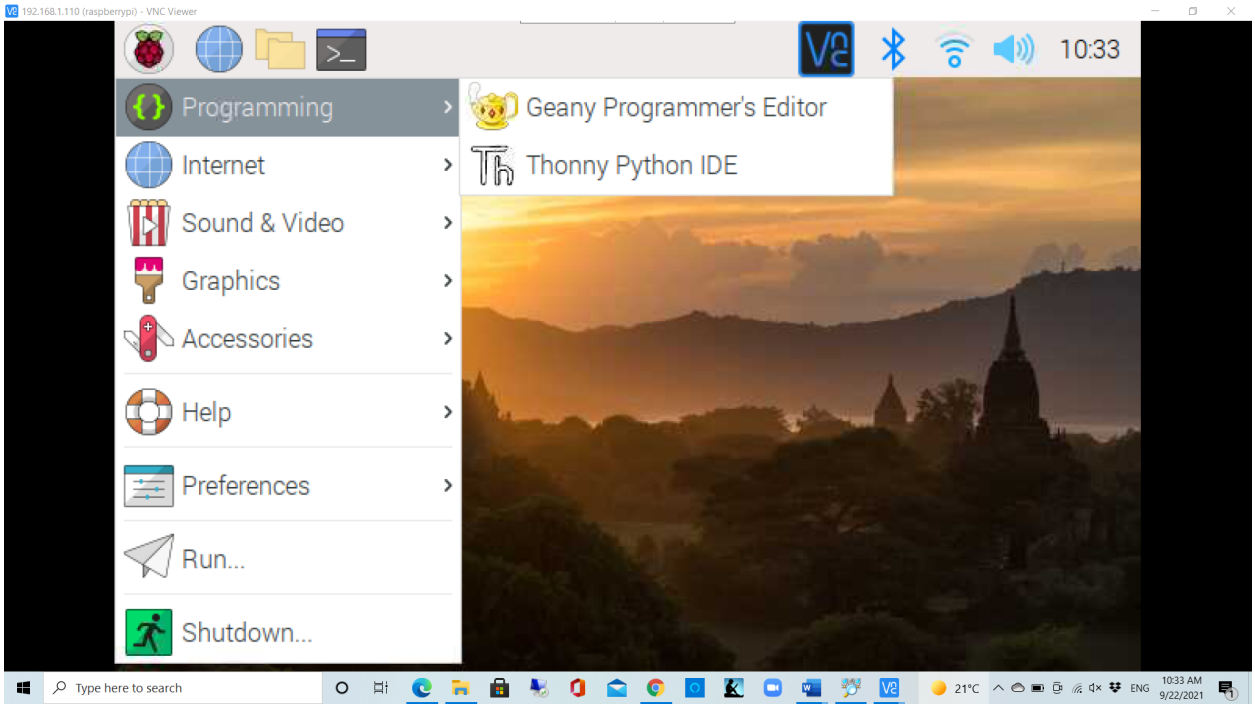
Report:

To make all LEDs blink through raspberry pi,

- Connect all LEDs with a positive connected to a resistor of 220 Ohm on the breadboard. Now connect the other ends of the resistor to positive supply from GPIO pin1(3.3V).
- Connect the other ends of the LEDs to corresponding GPIO pins if raspberry pi.



- Now give power supply to Raspberry pi.
- Connect the pi through VNC viewer.
- Now open python and open a new file.

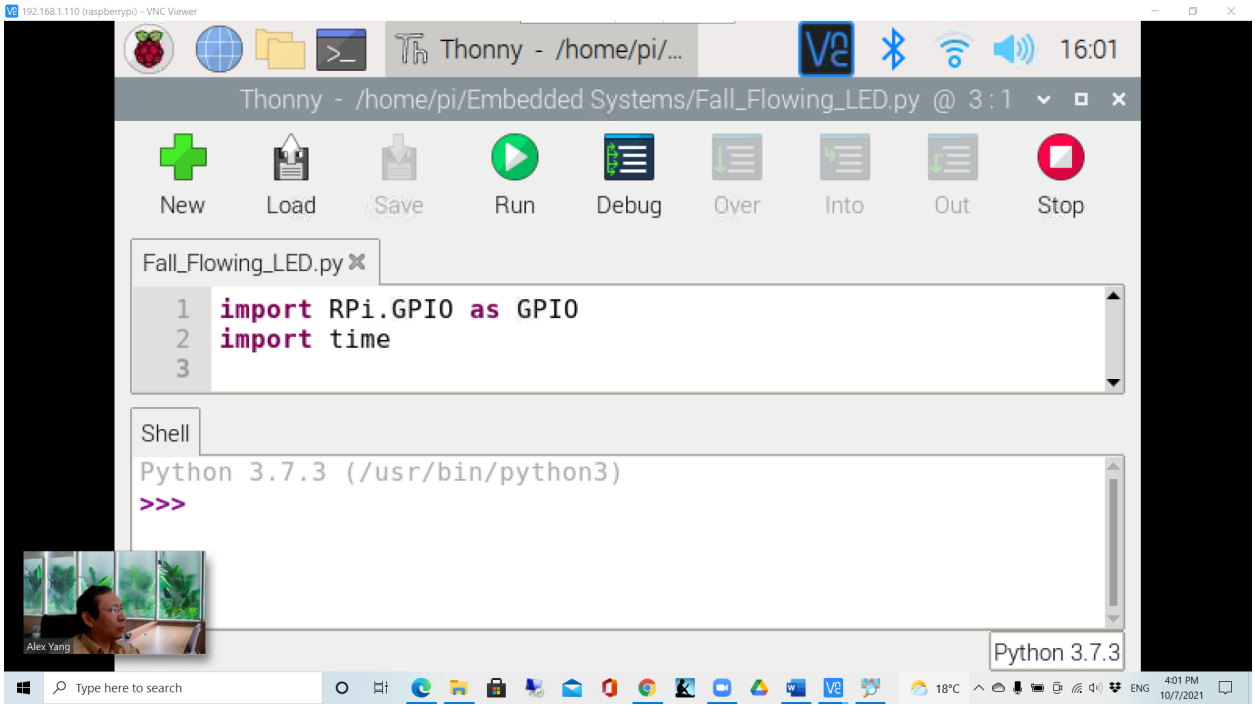


- Write the code to make LED blink and save it with .py extension(Fall_Flowing_LED.py)

Code:

```
import RPi.GPIO as GPIO

import time


pins = [11, 12, 13, 15, 16, 18, 22, 7]


def setup():
        GPIO.setmode(GPIO.BOARD)            # Numbers GPIOs by physical location
        for pin in pins:
                GPIO.setup(pin, GPIO.OUT)       # Set all pins' mode is output
                GPIO.output(pin, GPIO.HIGH)     # Set all pins to high(+3.3V) to off led
```

```
def loop():
    while True:
        for pin in pins:
            GPIO.output(pin, GPIO.LOW)
            time.sleep(0.05)
            GPIO.output(pin, GPIO.HIGH)
        for pin in reversed(pins):          # reversed() function Blinks the LEDs in the reverse order
            GPIO.output(pin, GPIO.LOW)
            time.sleep(0.05)
            GPIO.output(pin, GPIO.HIGH)


def destroy():
    for pin in pins:
        GPIO.output(pin, GPIO.HIGH)    # turn off all leds
    GPIO.cleanup()                     # Release resource
setup()
try:
    loop()
except KeyboardInterrupt:      # When 'Ctrl+C' is pressed, the child program destroy() will be  executed.
    destroy()
```



- Now to make the LED blink, run the program
- Open Terminal : Sudo python led-blink.py and press enter
- Now the LED starts blinking.
- To stop the LED blink, press ctrl+C