

Assignment-3

Assignment Date	17 October 2022
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Marks	2 Marks

Question-1:

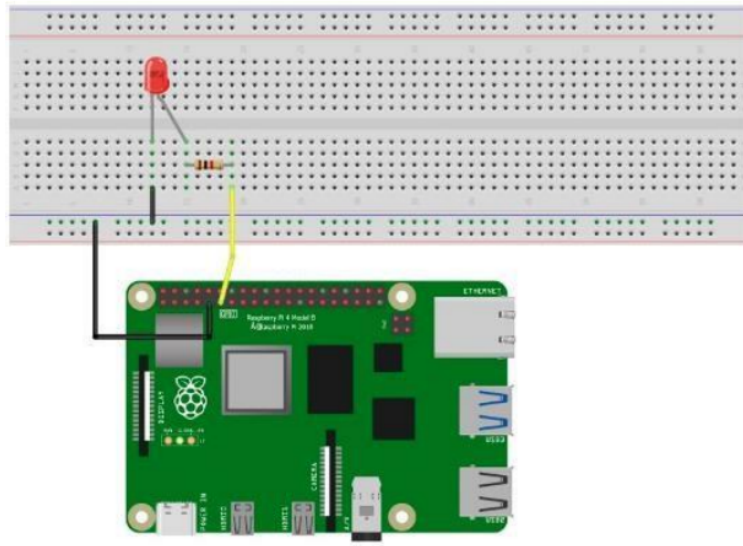
Write a python code for blinking LED and Traffic lights for Raspberry pi. Only python code is enough, no need to execute in raspberry pi.

1.LED Blinking

Solution:

```
1. #-----
2. import RPi.GPIO as GPIO
3. import time
4. #assign numbering for the GPIO using BCM
5. GPIO.setmode(GPIO.BCM)
6. #assign number for the GPIO using Board
7. #GPIO.setmode(GPIO.BOARD)
8. #-----
9. cnt = 0
10. MAIL_CHECK_FREQ = 1 # change LED status every 1 seconds
11. RED_LED = 4
12. GPIO.setup(RED_LED, GPIO.OUT)
13. while True:
14. if cnt == 0 :
15. GPIO.output(RED_LED, False)
16. cnt = 1
17. else:
18. GPIO.output(RED_LED, True)
19. cnt = 0
20.
21.time.sleep(MAIL_CHECK_FREQ)
22.GPIO.cleanup()
```

Circuit Diagram/Output:



(The LED will blink)

2. Traffic Lights:

Solution:

```
1. from gpiozero import Button, TrafficLights, Buzzer
2. from time import sleep
3.
4. buzzer = Buzzer(15)
5. button = Button(21)
6. lights = TrafficLights(25, 8, 7)
7.
8.
9. while True:
10.     button.wait_for_press()
11.     buzzer.on()
12.     light.green.on()
13.     sleep(1)
```

13.

```
lights.amber.on()
```

```
lights.amber.on()
```

14.
sleep(1)

sleep(1)

15. `lights.red.on()`

```
lights.red.on()
```

16.
sleep(1)

sleep(1)

17.
lights.off()

```
lights.off()
```

18. buzzer.off()

```
buzzer.off()
```

Circuit Diagram/Output:

