

ASSIGNMENT-3

Python Programming

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Question-1:

Write python code for blinking LED and Traffic lights for Raspberry pi. Only python code is enough, no need to execute in raspberry pi. Note: you are allowed to use web search and complete the assignment.

Solution:

```
from gpiozero import Button
```

```
button = Button(21)
```

```
while True:
```

```
    print(button.is_pressed)
```

```
    while True:
```

```
        if button.is_pressed:
```

```
            print("Hello")
```

```
        else:
```

```
            print("Goodbye")
```

```
    while True:
```

```
        button.wait_for_press()
```

```
        print("Pressed")
```

```
        button.wait_for_release()
```

```
        print("Released")
```

```
from gpiozero import Button, LED
```

```
led = LED(25)
```

```
while True:
```

```
    button.wait_for_press()
```

```
    led.on()
```

```
    button.wait_for_release()
```

```
led.off()

while True:

    led.on()

    button.wait_for_press()

    led.off()

    button.wait_for_release()

    while True:

        led.blink()

        button.wait_for_press()

        led.off()

        button.wait_for_release()

from gpiozero import Button, TrafficLights

lights = TrafficLights(25, 8, 7)

while True:

    button.wait_for_press()

    lights.on()

    button.wait_for_release()

    lights.off()

    while True:

        lights.blink()

        button.wait_for_press()

        lights.off()

        button.wait_for_release()

from gpiozero import Button, TrafficLights, Buzzer

buzzer = Buzzer(15)

while True:

    lights.on()
```

```
buzzer.off()

button.wait_for_press()

lights.off()

buzzer.on()

button.wait_for_release()

while True:

    lights.blink()

    buzzer.beep()

    button.wait_for_press()

    lights.off()

    buzzer.off()

    button.wait_for_release()

from time import sleep

while True:

    lights.green.on()

    sleep(1)

    lights.amber.on()

    sleep(1)

    lights.red.on()

    sleep(1)

    lights.off()

while True:

    button.wait_for_press()

    lights.green.on()

    sleep(1)

    lights.amber.on()

    sleep(1)
```

lights.red.on()

sleep(1)

lights.off()