ASSIGNMENT 3

Python Programming   2

Assignment Date	03 October 2022
Student Roll. No	718019L146
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Maximum Marks	2 Marks

Question – 1

Write Python code for Blinking LED and Traffic Lights for Raspberry Pi. Only the Python code is enough and need not to execute it in the board.

Solution

Blinking of an LED

from gpiozero import Button, LED, Buzzer   # Importing in-built functions

led = LED(25)

button = Button(21)

buzzer = Buzzer(15)

while True:

 button.wait_for_press()

 led.blink(1,1)

 buzzer.on()

 button,waut_for_release()

 led.off()

buzzer.off()

```python
# Blinking of an LED using RaspberryPi
from gpiozero import Button, LED, Buzzer  # Importing in-built functions
led = LED(25)
button = Button(21)
buzzer = Buzzer(15)
while True:
 button.wait_for_press()
 led.blink(1,1)
 buzzer.on()
 button,waut_for_release()
 led.off()
 buzzer.off()
```

Traffic Lights (With In-built Function)

Creating Traffic light using RaspberryPi

from gpiozero import TrafficLights, Button

from time import sleep

signal = TrafficLights(22,8,7)

button = Button(15)

while True:

 button.wait_for_press()

 signal.red.on()

 sleep(1)

 signal.amber.on()

 sleep(1)

 signal.green.on()

 sleep(1)

 signal.off()

```python
# Creating Traffic light using RaspberryPi
from gpiozero import TrafficLights, Button
from time import sleep
signal = TrafficLights(22,8,7)
button = Button(15)
while True:
 button.wait_for_press()
 signal.red.on()
 sleep(1)
 signal.amber.on()
 sleep(1)
 signal.green.on()
 sleep(1)
 signal.off()
```

Traffic Lights (Without In-built Function)

from gpiozero import Button, LED

from time import sleep

button = Button(15)

red = LED(22)

amber = LED(8)

green = LED(7)

```
while True:
 button.wait_for_press()
 red.on()
 button.wait_for_release()
 red.off()
 sleep(1)
 button.wait_for_press()
 amber.on()
 button.wait_for_release()
 amber.off()
 sleep(1)
 button.wait_for_press()
 green.on()
 button.wait_for_release()
 green.off()
 sleep(1)
```

```python
from gpiozero import Button, LED
from time import sleep
button = Button(15)
red = LED(22)
amber = LED(8)
green = LED(7)
while True:
 button.wait_for_press()
 red.on()
 button.wait_for_release()
 red.off()
 sleep(1)
 button.wait_for_press()
 amber.on()
 button.wait_for_release()
 amber.off()
 sleep(1)
 button.wait_for_press()
 green.on()
 button.wait_for_release()
 green.off()
 sleep(1)
```