Assignment -3

Python Programming

Assignment Date	6 October 2022
Maximum Marks	2 Marks

Question-1:

Write a python code to blink LED for Raspberry pi

Solution:

```
import RPi.GPIO as GPIO#RPi.GPIO can bereferred as GPIO from now on


import time


ledPin=22 #pin22

def setup():
 GPIO.setmode(GPIO.BOARD)  #GPIO NumberingofPins

GPIO.setup(ledPin, GPIO.OUT) #Set ledPinasoutput

GPIO.output(ledPin,GPIO.LOW) #Set ledPintoLOWto turnOfftheLED


    def loop():
while True:

        print'LEDon'

        GPIO.output(ledPin, GPIO.HIGH) #LEDOn

        time.sleep(1.0)   #wait 1sec

        print'LEDoff'

        GPIO.output(ledPin, GPIO.LOW) #LEDOff

        time.sleep(1.0)   #wait 1sec

    def endprogram():


        GPIO.output(ledPin,GPIO.LOW) #LEDOff
        GPIO.cleanup()               #Releaseresources

if__name_=='__main__': #Programstartsfromhere setup()
```

try:

loop()

except KeyboardInterrupt: #When'Ctrl+C' ispressed,thedestroy()will be executed. endprogram()

Question-2:

Write a python code for traffic lights for Raspberry pi

SOLUTION:

```
importRPi.GPIO asGPIO importtime
try: deflightTraffic(led1, led2, led3,
delay): GPIO.output(led1, 1)
time.sleep(delay) GPIO.output(led1,
0) GPIO.output(led2, 1)
time.sleep(delay) GPIO.output(led2,
0) GPIO.output(led3, 1)
time.sleep(delay) GPIO.output(led3,
0)
GPIO.setmode(GPIO.BCM) button=
19
GPIO.setup(button, GPIO.IN, pull_up_down=GPIO.PUD_UP) ledGreen=
16 ledYellow=
12 ledRed=
23
GPIO.setup(ledGreen, GPIO.OUT)
GPIO.setup(ledYellow,
GPIO.OUT) GPIO.setup(ledRed,
GPIO.OUT) while True:
input_state=GPIO.input(button)
ifinput_state== False:
print('Button Pressed')
lightTraffic(ledGreen, ledYellow,
ledRed, 1) else:
GPIO.output(ledGreen, 0)
GPIO.output(ledYellow, 0)
GPIO.output(ledRed, 0)
exceptKeyboardInterrupt:
print
"You'veexitedtheprogram"
finally:
```

```
GPIO.cleanup()
```