Assignment -3

Python Programming

Assignment Date	6 October 2022
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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


importtime


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():
    whileTrue:
        print'LEDon'
        GPIO.output(ledPin, GPIO.HIGH)    #LEDOn
        time.sleep(1.0)              #wait1sec
        print'LEDoff'
        GPIO.output(ledPin, GPIO.LOW)    #LEDOff
        time.sleep(1.0)              #wait1sec
def endprogram():


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

```
        GPIO.cleanup()                #Releaseresources

if__name__=='__main__':        #Programstartsfromhere
        setup()
        try:
                loop()
        exceptKeyboardInterrupt:  #When'Ctrl+C'ispressed,thedestroy()willbe  executed.endprogram()
```

Question-2:

Write a python code for traffic lights for Raspberry pi

SOLUTION:

```
importRPi.GPIO asGPIO
importtime
try:
defightTraffic(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)
whileTrue:
```

```
input_state=GPIO.input(button)
if input_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()
```