BLINKING LED AND TRAFFIC LIGHTS FOR RASPBERRY PI

BLINKING LED

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
GPIO.setup(21,GPIO.OUT)
while(1):
        GPIO.output(21,GPIO.HIGH)
        time.sleep(1)
        GPIO.output(21,GPIO.LOW)
        time.sleep(1)
```

TRAFFIC LIGHTS

```
import sys
import RPi.GPIO as GPIO
from threading import Timer
GPIO.setwarnings(False)
GPIO.setmode(GPIO.BOARD)
aLights = {
        "north": [36, 38, 40],
        "east":  [33, 31, 29]
}
```

```
for i in aLights["north"]:
	GPIO.setup(i, GPIO.OUT)
for i in aLights["east"]:
	GPIO.setup(i, GPIO.OUT)
iLightDelay = 2
iGreenTime = 8
bOrangeBeforeGreen = False
sGreen = "north"
def init():
	changeLightTo("north", "red")
	changeLightTo("east", "red")
	Timer(iLightDelay, startUp).start()
def startUp():
	if bOrangeBeforeGreen == True:
		changeLightTo("north", "redorange")
		Timer(iLightDelay, changeNorthToGreen).start()
	else:
		changeNorthToGreen()
def changeNorthToGreen():
	changeLightTo("north", "green")
	switchLights()
def switchLights():
	Timer(iGreenTime, switchLightsTimed).start()
```

```
def switchLightsTimed():
	global sGreen
	if sGreen == "north":
		s1 = "north"
		s2 = "east"
	else:
		s1 = "east"
		s2 = "north"

	changeLightTo(s1, "yellow")
	if bOrangeBeforeGreen == True:
		changeLightTo(s2, "redorange")
	Timer(iLightDelay, switchLightsFinal, (s1, s2)).start()
def switchLightsFinal(s1, s2):
	global sGreen
	changeLightTo(s1, "red")
	changeLightTo(s2, "green")
	sGreen = s2
	switchLights()
def changeLightTo(sLight, sColor):
	turnAllOff(sLight)
```

```
        if sColor == "red":
                setLed(aLights[sLight][0], "on")
        elif sColor == "yellow":
                setLed(aLights[sLight][1], "on")
        elif sColor == "green":
                setLed(aLights[sLight][2], "on")
        elif sColor == "redorange":
                setLed(aLights[sLight][0], "on")
                setLed(aLights[sLight][1], "on")
def turnAllOff(sLight):
        for i in aLights[sLight]:
                setLed(i, "off")
def setLed(iLed, sState):
        if sState == "on":
                GPIO.output(iLed, True)
        else:
                GPIO.output(iLed, False)
init()
```