Assignment-3

Write a python code for Blinking LED and traffic lights for raspberry Pi code

Blinking LED Code:

```
import RPi.GPIO # RPi.GPIO can be referred as GPIO from now import time
```

```
ledPin = 22 # pin22
```

def setup():

```
GPIO.setmode(GPIO.BOARD) # GPIO Numbering of Pins
GPIO.setup(ledPin, GPIO.OUT) # Set ledPin as output
GPIO.output(ledPin, GPIO.LOW) # Set ledPin to LOW
```

```
def loop():
```

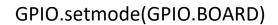
while True:

```
print 'LED on'
       GPIO.output(ledPin, GPIO.HIGH) # LED On
       time.sleep(1.0)
                       # wait 1 sec
       print 'LED off'
       GPIO.output(ledPin, GPIO.LOW) # LED Off
       time.sleep(1.0) # wait 1 sec
def endprogram():
   GPIO.output(ledPin, GPIO.LOW) # LED Off
   GPIO.cleanup()
                  # Release resources
if name == ' main ': # Program starts from here
   setup()
   try:
 loop()
   except KeyboardInterrupt: # When 'Ctrl+C' is pressed, the
destroy() will be executed.
       endprogram()
```

Traffic lights code:

```
import argparse
import os
import time
import RPi.GPIO as GPIO
if os.getuid() != 0:
  raise SystemExit('Expecting root privileges. Root privileges needed for
GPIO pin usage.')
parser = argparse.ArgumentParser(description = 'Control Traffic Signal
State')
parser.add_argument('color', choices = ['red', 'yellow', 'green'], help =
'Color of light')
parser.add_argument('state', choices = ['on', 'off', 'blink'], help = 'State
of light')
parser.add argument('--verbose', '-v', action = 'store true')
args = parser.parse_args()
if args.verbose:
  print('Setting ' + args.color + " light to " + args.state + ".")
```

```
# Determine the GPIO pin
if args.color == 'red':
  pin = 8
elif args.color == 'yellow':
  pin = 10
elif args.color == 'green':
  pin = 12
else:
  raise SystemExit('Bad color specified.')
# Determine the state
if args.state == 'on':
  state = False
elif args.state == 'off':
  state = True
else:
  raise SystemExit('Bad state specified.')
# Set up the GPIO interface
```



GPIO.setwarnings(False)

Trigger the GPIO output

GPIO.setup(pin, GPIO.OUT, initial=state)

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