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SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

ASSIGNMENT – 3

Write a python code for blinking LED and Traffic Lights for Raspberry Pi.

(i) Python Code for Blinking LED:

```python
#import RPi.GPIO as GPIO
#from gpiozero import LED
from time import sleep
#led = LED(17)
while True:
    #led.on()
    print("LED turned ON")
    sleep(1)
    #led.off()
    print("LED turned OFF")
    sleep(1)

```

Output Window:

```
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
```

(ii) Python Code for Traffic Lights:

```python
1   import RPi.GPIO as GPIO
2   import time
3   import signal
4   import sys
5   #setup
6   GPIO.setmode(GPIO.BCM)
7   GPIO.setup(9, GPIO.OUT)
8   GPIO.setup(10, GPIO.OUT)
9   GPIO.setup(11, GPIO.OUT)
10  #Turn off all lights
11  def allLightOff(signal, frame):
12      GPIO.output(9,False)
13      GPIO.output(10,False)
14      GPIO.output(11,False)
15      GPIO.cleanup()
16      sys.exit(0)
17  signal.signal(signal.SIGINT, allLightsOff)
18  #Forever Loop
19  while True:
20      #Red
21      GPIO.output(9, True)
22      time.sleep(3)
23      GPIO.output(10, True)
24      time.sleep(1)
25      #Green
26      GPIO.output(9,False)
27      GPIO.output(10,False)
28      GPIO.output(11,True)
29      time.sleep(5)
30      #Amber
31      GPIO.output(11,False)
32      GPIO.output(10,True)
33      time.sleep(2)
34      #Amber off
35      GPIO.output(10,False)
```