**HANDOUT #9**

#importing the Library

from gpiozero import LED,Button,Buzzer

from time import sleep

from signal import pause

#introducint TM1637 to program

import tm1637

display = tm1637.TM1637(20, 16) #20=CLK 16=DIO

#give name to components - variable

red\_led = LED(14)

green\_led=LED(18)

buzzer=Buzzer(25)

pc\_button = Button(24)

#add anti spam LED here

anti\_spam\_led=LED(7)

#traffic light LEDs

tl\_red = LED(13)

tl\_amber = LED(19)

tl\_green = LED(26)

#initialise state of components to off

#initialise pedestrian crossing lights

red\_led.off()

green\_led.off()

buzzer.off()

#initialise traffic lights

tl\_red.off()

tl\_amber.off()

tl\_green.off()

#must initialise the anti spam LED as well

anti\_spam\_led.off()

#new function to handle spamming

def checkstatus():

if anti\_spam\_led.on():

pass

else:

anti\_spam\_led.on()

greenman()

**HANDOUT #9 (Cont’d)**

#create a function for greenman

def greenman():

tl\_green.off()

tl\_amber.blink(on\_time=.5, off\_time=.5,n=5)

sleep(5)

tl\_red.on()

red\_led.off()

green\_led.on()

sleep(10)

for count in range(9,-1,-1):

green\_led.blink(on\_time=.5, off\_time=.5, n=1)

buzzer.blink(on\_time=.5,off\_time=.5,n=1)

S1=' '

S2=' '

S3=' '

S4=str(count)

display.set\_values([S1, S2, S3, S4])

sleep(1)

green\_led.off()

display.clear()

red\_led.on()

tl\_red.off()

tl\_green.on()

#reset anti\_spam\_led

anti\_spam\_led.off()

#logic of program

#set initial status of traffic light and pedestrian crossing

#start point

#traffic light is green and traffic is moving

tl\_green.on()

#pedestrian crossing is red, cannot cross

red\_led.on()

# some modification is needed here

#instead of running greenman, we run the check\_status first

#pc\_button.when\_pressed = greenman

pc\_button.when\_pressed = checkstatus

pause()