Assignment -3

Python Programming

Assignment Date	7 OCTOBER 2022
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Maximum Marks	2 Marks

QUESTION:

Write python code for blinking LED and Traffic lights for Raspberry pi.Only python code is enough, no need to execute in raspberry pi.Note: you are allowed to use web search and complete the assignment.

```
import turtle

# Create a playground for turtles
wn = turtle.Screen()
wn.bgcolor('white')

# Create turtles
tess = turtle.Turtle()
alex = turtle.Turtle()
henry = turtle.Turtle()


def draw_housing():
    """ Draw a nice housing to hold the traffic lights"""
    tess.pensize(3)
    tess.color('black', 'black')
    tess.begin_fill()
    tess.forward(80)
    tess.left(90)
    tess.forward(157)
    tess.circle(40, 180)
    tess.forward(157)
    tess.left(90)
    tess.end_fill()


draw_housing()


def circle(t, ht, colr):
    """Position turtle onto the place where the lights should be, and
    turn turtle into a big circle"""
    t.penup()
    t.forward(40)
    t.left(90)
    t.forward(ht)
    t.shape('circle')
    t.fillcolor(colr)


circle(tess, 40, 'green')
circle(alex, 100, 'orange')
circle(henry, 160, 'red')

# This variable holds the current state of the machine
state_num = 0


def advance_state_machine():
```

```
    global state_num  # The global keyword tells Python not to create a new
local variable for state_num

    if state_num == 0:  # Transition from state 0 to state 1
        henry.color('darkgrey')
        alex.color('darkgrey')
        tess.color('green')
        wn.ontimer(advance_state_machine, 3000)  # set the timer to explode in
3000 milliseconds (3 seconds)
        state_num = 1
    elif state_num == 1:  # Transition from state 1 to state 2
        henry.color('darkgrey')
        alex.color('orange')
        wn.ontimer(advance_state_machine, 1000)
        state_num = 2
    elif state_num == 2:  # Transition from state 2 to state 3
        tess.color('darkgrey')
        wn.ontimer(advance_state_machine, 1000)
        state_num = 3
    else:                 # Transition from state 3 to state 0
        henry.color('red')
        alex.color('darkgrey')
        wn.ontimer(advance_state_machine, 2000)
        state_num = 0


advance_state_machine()

wn.listen()  # Listen for events

wn.mainloop()  # Wait for user to close window
```

OUTPUT: