

IBMASSIGNMENT3

AssignmentDate	October5,2022
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Maximummarks	2Marks

Question-1:WritepythoncodeforblinkingLEDandTrafficlightsforRaspberrypi

PROGRAM:

ProgramforLEDInterfacewithRaspberrypi:

```
importRPi.GPIOasGPIO#
RPi.GPIOcanbereferredas
GPIOfromnow importtime
ledPin=22#pin22 defsetup():

GPIO.setmode(GPIO.BOARD)
#GPIONumberingofPins
GPIO.setup(ledPin,
GPIO.OUT)#SetledPinas output
    GPIO.output(ledPin,
GPIO.LOW)#SetledPinto
LOWtoturnOfftheLED

defloop():
    whileTrue:
        print'LEDOn'
        GPIO.output(ledPin,
GPIO.HIGH)#LEDOn
        time.sleep(1.0)
#wait1sec print'LEDOff'
        GPIO.output(ledPin,
GPIO.LOW)#LEDOff
        time.sleep(1.0)
#wait1sec defendprogram():
    GPIO.output(ledPin,
GPIO.LOW)#LEDOff
```

```

        GPIO.cleanup()
#Releaseresources

if __name__ == '__main__':
#Programstartsfromhere setup()
    try:
        loop()
    except KeyboardInterrupt:
#When 'Ctrl+C' is pressed, the
destroy() will be executed.
        endprogram()

```

Program for traffic light interface with Raspberry pi:

```

import turtle #Allows
                ustouse turtles

turtle.setup(400,600) #
    Determinethewindow size
wn=turtle.Screen() #
    Creates a playground for turtles
    wn.title('traffic light
using different turtles')
#Set the window title
wn.bgcolor('skyblue') #
    Set the window
    background color
tess=turtle.Turtle() #
Create a turtle, assign to tess
    alex=turtle.Turtle() #
    Create alex
henry=turtle.Turtle() # Create henry

def draw_housing():
    """Draw a nice
housing to hold the traffic lights"""
    tess.pensize(3) #
Change tess' pen width
    tess.color('black',

```

```

'white')#Settess'color
tess.begin_fill()#Tell
tesstostartfillingthe color
tess.forward(80)#
Telltesstomove
forwardby80units
tess.left(90)#Tell
tesstoturnleftby90 degrees
tess.forward(200)
tess.circle(40,180)#
Telltesstodrawasemicircle
tess.forward(200) tess.left(90)
tess.end_fill()#Tell
tesstostopfillingthe color

```

```

draw_housing()

```

```

defcircle(t,ht,colr):
    """Positionturtleonto
    theplacewherethe
    lightsshouldbe,and
    turnturtleintoabig
    circle"""
    t.penup()#This
    allowsustomovea
    turtlewithoutdrawinga line
    t.forward(40)
    t.left(90)
    t.forward(ht)
    t.shape('circle')#Set
    tute'sshapetocircle
    t.shapesize(3)#Set
    sizeofcircle
    t.fillcolor(colr)#Fill colorincircle
    circle(tess,50,'green')
    circle(alex,120,'orange')
    circle(henry,190,'red')

```