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
```

```python
        GPIO.cleanup()
#Releaseresources

if__name__=='__main__':
#Programstartsfromhere setup()
     try:
            loop()
     exceptKeyboardInterrupt:
#When'Ctrl+C'ispressed,the
destroy()willbeexecuted.
            endprogram()
```

ProgramfortrafficlightinterfacewithRaspberrypi:

```python
  importturtle#Allows
     ustouseturtles

turtle.setup(400,600)#
 Determinethewindow size
 wn=turtle.Screen()#
  Createsaplayground forturtles
    wn.title('trafficlight
 usingdifferentturtles')
 #Setthewindowtitle
wn.bgcolor('skyblue')#
     Setthewindow
    backgroundcolor
 tess=turtle.Turtle()#
Createaturtle,assignto tess
            alex=turtle.Turtle()#
       Createalex
henry=turtle.Turtle()# Createhenry


   defdraw_housing():
       """Drawanice
    housingtoholdthe trafficlights"""
     tess.pensize(3)#
Changetess'penwidth
     tess.color('black',
```

```python
                                '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
tutle'sshapetocircle
    t.shapesize(3)#Set
sizeofcircle
    t.fillcolor(colr)#Fill colorincircle
circle(tess,50,'green')
circle(alex,120,'orange')
circle(henry,190,'red')
```