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()
        exceptKeyboardInterrupt:
#When'Ctrl+C'ispressed,the
destroy()willbeexecuted.
                endprogram()
```

Programfortrafficlightinterfacewith Raspberrypi:

```
  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',
'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')
```