Python Programming

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Question-1:

Write a python code for blinking LED for Raspberry pi.

SOL:

#!/user/bin/env python

import RPi.GPIO as GPIO # RPi.GPIO can be referred as GPIO from now import time

ledPin = 22 # pin22def

**LED**

setup():

GPIO.setmode(GPIO.BOARD) # GPIO Numbering of Pins GPIO.setup(ledPin, GPIO.OUT) # Set ledPin as output GPIO.output(ledPin, GPIO.LOW) # Set ledPin to LOW to turn Off

def loop():

while True:

print 'LED on'

GPIO.output(ledPin, GPIO.HIGH) # LED On time.sleep(1.0 ) # wait 1 sec

print 'LED off'

GPIO.output(ledPin, GPIO.LOW) # LED Offtime.sleep(1.0) # wait 1 sec

def endprogram():

GPIO.output(ledPin, GPIO.LOW) # LED Off GPIO.cleanup() # Release resources

if\_name\_=='\_main\_': # Program starts from here setup()

try:

be executed.

loop()

except KeyboardInterrupt: # When 'Ctrl+C' is pressed, the destroy() will endprogram()

Question-2:

Explain a python code for Traﬃc lights for Raspberry pi.

# SOL:

#!/usr/bin/python3.4 import RPi.GPIO as GPIO import time

GPIO.setmode(GPIO.BCM) GPIO.setwarnings(False)

GPIO.setup(4, GPIO.IN, pull\_up\_down = GPIO.PUD\_DOWN) # Button GPIO.setup(17, GPIO.OUT, initial = GPIO.HIGH) # RED GPIO.setup(27, GPIO.OUT, initial = GPIO.HIGH) # YELLOW GPIO.setup(18, GPIO.OUT, initial = GPIO.HIGH) # GREEN

GPIO.setup(22, GPIO.OUT, initial = GPIO.LOW) # Buzzer

x = 1 # Variable to control traﬃc light systemtry: while True:

if(GPIO.input(4) == True): while(x == 1):

GPIO.output(17, GPIO.LOW) GPIO.output(22, GPIO.HIGH)

time.sleep(2) GPIO.output(22, GPIO.LOW) GPIO.output(27, GPIO.LOW)

time.sleep(3) GPIO.output(17, GPIO.HIGH) GPIO.output(27,GPIO.HIGH) GPIO.output(18, GPIO.LOW)

time.sleep(5) GPIO.output(18, GPIO.HIGH)

time.sleep(2) except Exception as ex:

print(“error occured”,ex)ﬁnally: GPIO.cleanup()