

Assignment -3
Python Programming

Assignment Date	06 October 2022
Team Id	PNT2022TMID02250
Project Name	IoT Based Smart Crop Protection Systemfor Agriculture.
Maximum Marks	2 Marks

Question-1:

Write a python code for led blinking in raspberry pi

SOLUTION:

import RPi.GPIO as GPIO # Import Raspberry Pi GPIO library

from time import sleep # Import the sleep function from the time module

GPIO.setwarnings(False) # Ignore warning for now

GPIO.setmode(GPIO.BOARD) # Use physical pin numbering

GPIO.setup(8, GPIO.OUT, initial=GPIO.LOW) # Set pin 8 to be an output pin and set initial value to low (off)

while True: # Run forever

GPIO.output(8, GPIO.HIGH) # Turn on

sleep(1) # Sleep for 1 second

GPIO.output(8, GPIO.LOW) # Turn off

sleep(1) # Sleep for 1 second

```
File Edit Format Run Options Window Help
import RPi.GPIO as GPIO # Import Raspberry Pi GPIO library
from time import sleep # Import the sleep function from the time module

GPIO.setwarnings(False) # Ignore warning for now
GPIO.setmode(GPIO.BOARD) # Use physical pin numbering
GPIO.setup(8, GPIO.OUT, initial=GPIO.LOW) # Set pin 8 to be an output pin and set initial value to low (off)

while True: # Run forever
    GPIO.output(8, GPIO.HIGH) # Turn on
    sleep(1) # Sleep for 1 second
    GPIO.output(8, GPIO.LOW) # Turn off
    sleep(1) # Sleep for 1 second
```

Question-2:

Write a python code for traffic light in raspberry pi

SOLUTION:

```
from gpiozero import Button, TrafficLights, Buzzer

from time import sleep

buzzer = Buzzer(15)

button = Button(21)

lights = TrafficLights(25, 8, 7)

while True:

    button.wait_for_press(

    ) buzzer.on()

    light.green.on()

    sleep(1)

    lights.amber.on()

    sleep(1)

    lights.red.on()

    sleep(1)

    lights.off()

    buzzer.off()
```

A screenshot of a Python IDE window. The window has a menu bar with 'File', 'Edit', 'Format', 'Run', 'Options', 'Window', and 'Help'. Below the menu bar is a toolbar with icons for file operations and execution. The main text area contains the same Python code as the previous block, with syntax highlighting: keywords like 'from', 'while', and 'True' are in orange; function names like 'Buzzer', 'Button', 'TrafficLights', 'wait_for_press', 'on', 'off', and 'sleep' are in blue; and string literals and numbers are in black. The code is as follows:

```
File Edit Format Run Options Window Help
from gpiozero import Button, TrafficLights, Buzzer
from time import sleep

buzzer = Buzzer(15)
button = Button(21)
lights = TrafficLights(25, 8, 7)

while True:
    button.wait_for_press()
    buzzer.on()
    light.green.on()
    sleep(1)
    lights.amber.on()
    sleep(1)
    lights.red.on()
    sleep(1)
    lights.off()
    buzzer.off()
```