

ASSIGNMENT 3

Assignment date	October 8
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Maximum marks	2 marks

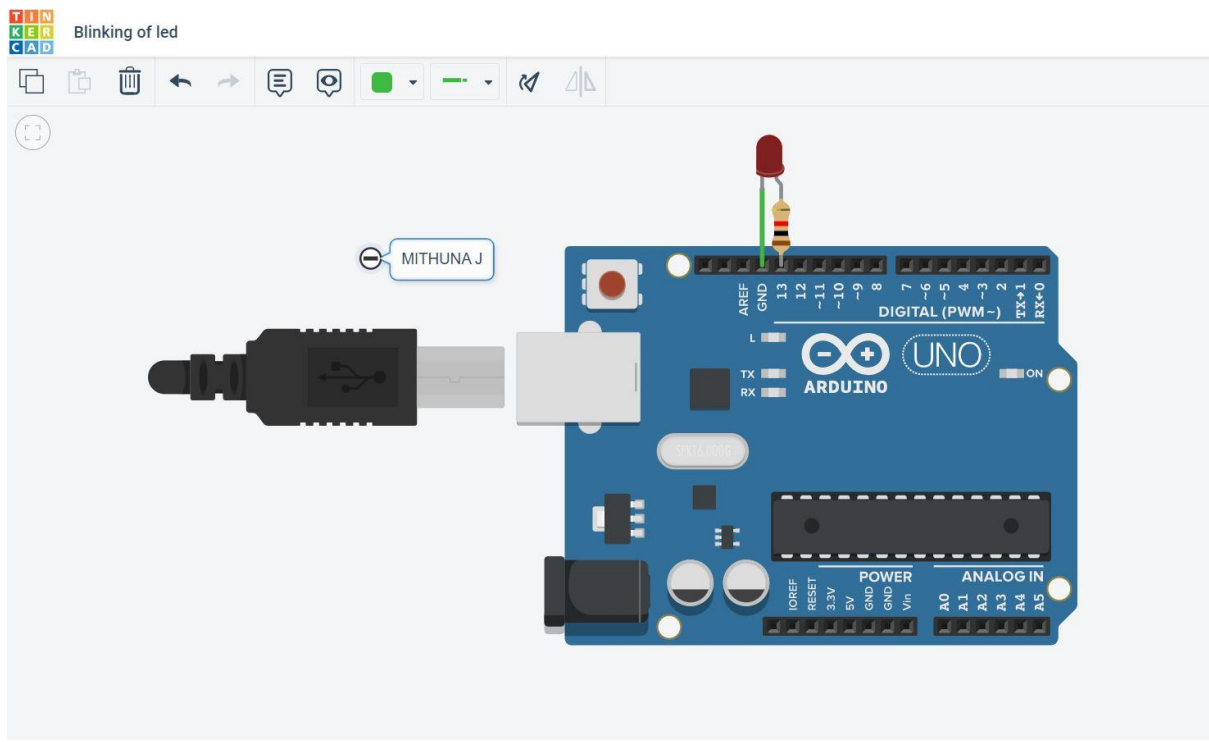
Question:

PYTHON CODE FOR BLINKING LED AND TRAFFIC LIGHTS FOR RASPBERRY PI.

Solution:

BLINKING OF LED:

Circuit diagram:



Python Code:

```
import time

## Import GPIO library
import RPi.GPIO as GPIO

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

## Setup GPIO Pin 11 to OUT
GPIO.setup(11, GPIO.OUT)

while True:
    ## Turn on Led
    GPIO.output(11,True)

    ## Wait for one second
    time.sleep(1)

    ## Turn off Led
    GPIO.output(11,False)

    ## Wait for one second
    time.sleep(1)
```

TRAFFIC LIGHT:

```
import Rpi.GPIO as GPIO
import time
import signal
import sys

#Setup
GPIO.setmode(GPIO.BCM)
```

```
GPIO.setup(9,GPIO.OUT)
```

```
GPIO.setup(10,GPIO.OUT)
```

```
GPIO.setup(11,GPIO.OUT)
```

```
#Turn off all lights when user ends demo
```

```
def allLightsOff(signal,framer):
```

```
    GPIO.output(9,False)
```

```
    GPIO.output(10,False)
```

```
    GPIO.output(11,False)
```

```
    GPIO.cleanup()
```

```
    sys.exit(0)
```

```
    signal.signal(signal.SIGINT,allLightsOff)
```

```
#Loop forever
```

```
while True:
```

```
    #Red
```

```
    GPIO.output(9,True)
```

```
    Time.sleep(3)
```

```
    #Red and amber
```

```
    GPIO.output(10,True)
```

```
    Time.sleep(1)
```

```
    #Green
```

```
    GPIO.output(9,False)
```

```
GPIO.output(10,False)
```

```
GPIO.output(11,True)
```

```
Time.sleep(5)
```

```
#Amber
```

```
GPIO.output(11,False)
```

```
GPIO.output(10,True)
```

```
Time.sleep(2)
```

```
#Amber off(red comes on at top of loop)
```

```
GPIO.output(10,False)
```