TEA 17 Assignment No : 8 Nikita Bhosale

Aim: Write an Application using Raspberry Pi / Beagle board to control the application of a hardware simulated traffic signal

Theory :-

Attaching the traffic signal lights :-

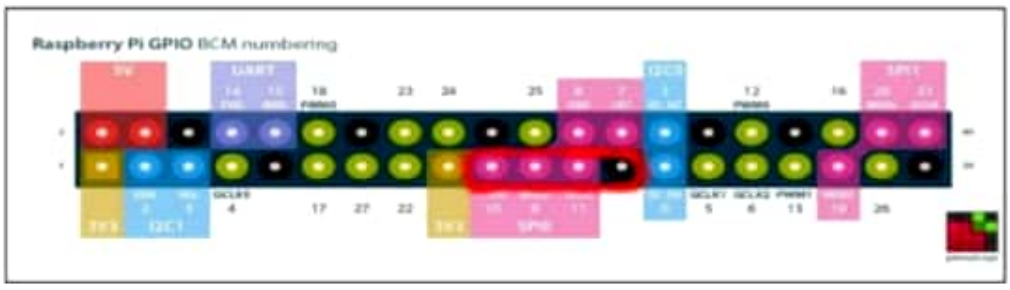
The low voltage labs traffic lights connect to the Pi using four pins one of these needs to be ground, the other three being actual GPIO pins used to control each of the individual LED's

Before powering up the Pi, attach the traffic lights so that the pins connect to the GPIO pins highlighted in red :

Programming the Traffic lights :

1) Enter this at command line -

```
sudo apt-get install python-dev
python-rpi.gpio git
```



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

e) How it works :

The code gives us timed wait function, signal that allows us to trap the signal sent when the user tries to quit the program and sys so we can spend an appropriate exit signal back to the os before terminating

Next, we put the GPIO library into "BCM" or "broadcom" mode and sets pins 9, 10 and 11 to be used as o/p

```
# setup :-
    GPIO.setmode (GPIO.BCM)
    GPIO.setup (9, GPIO.OUT)
    GPIO.setup (10, GPIO.OUT)
    GPIO.setup (11, GPIO.OUT)

# The main part will run in an infinite loop until the
user exits it by stopping python with ctrl c

# Turn off lights when user ends demo.
    def allLightOff (signal frame) :
        GPIO.output (9, FALSE)
        GPIO.output (10, FALSE)
        GPIO.output (11, FALSE)
        GPIO.cleanup ()
        sys.exit (0)
signal.signal (signal.SIGINT, allLightOff)
```

Conclusion : Thus we implement the application for traffic signals using Raspberry Pi