Name- Rutuja Manoj Kasar
class- TE - div- A
Roll no:- 65.

Assignment - 08

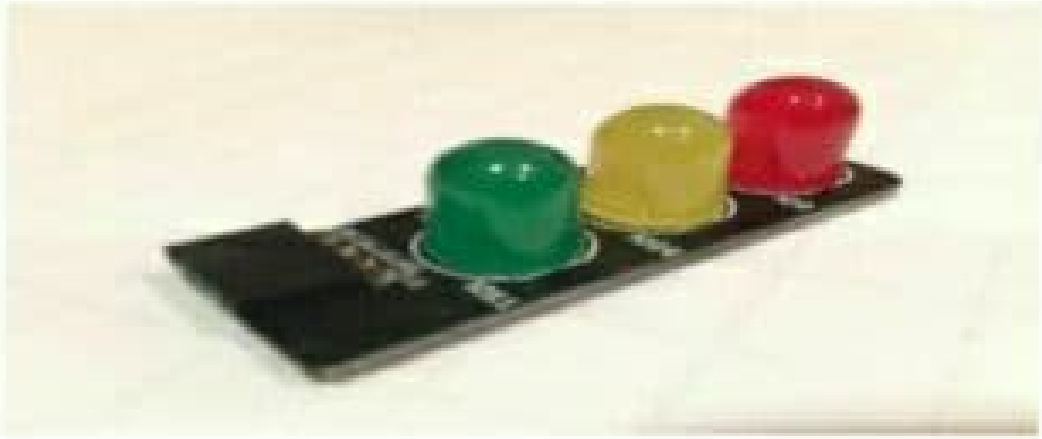
Aim- Write an application using Raspberry - Pi / beagle board to control the operation of C hardware simulated traffic signal.

Theory - Attaching the traffic lights
The low voltage lab traffic lights connect to 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.

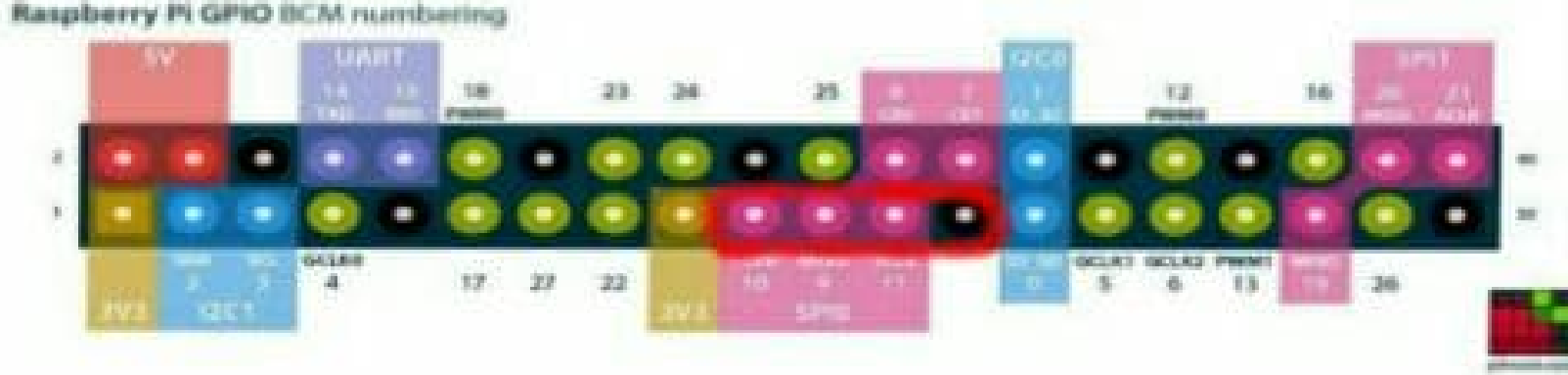
Programming the traffic lights →

First you need to install a couple of extra software packages needed to allow you download my sample code & to give python access the GPIO pins on the Pi Enter the following at command line.

Sudo apt-get install python-rpi-gpio-git.



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



Set up

```
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 all_lights_off(signal, frame):
    GPIO.output(9, False)
    GPIO.output(10, False)
    GPIO.output(11, False)
    GPIO.output.cleanup()
    sys.exit(0)
signal.signal(signal.SIGINT, all_lights_off)
```

When control-c is pressed an interrupt signal SIGINT is sent. This is handled by all lights off function that switches all the lights off, tidies up the GPIO library and exist cleanly back to the operating system

Conclusion -

Thus, we have implemented the application for traffic signals using Raspberry Pi.