

## Assignment C-10

Q.1) Explain Beagle bone black's GP IO Pin configuration  
Specify pins used in traffic signal hardware.

- 1) GPIO (General Purpose Input Output pins) are specified that they can be configured at runtime in variety by ways ranging from simple output input to serial interface to specialized encoder readings.
- 2) While the BBB supports up to 69 pins, in reality the majority of pins are being used by on board system preferences such as HDMI & LCD abilities.

Traffic Light	BBB P9 Header Pin	BBB GPIO Pin	Description
LD1	P9: 21	GPIO-0-3	N Green
LD2	P8: 13	GPIO-0-23	E Green
LD3	P9: 22	GPIO-0-2	S Green
LD4	P8: 14	GPIO-0-26	W Green
LD5	P9: 23	GPIO-0-17	N <del>Green</del> Yellow
LD6	P8: 15	GPIO-0-15	E Yellow
LD7	P9: 24	GPIO-0-15	S Yellow
LD8	P8: 16	GPIO-0-14	W Yellow
LD9	P9: 26	GPIO-0-14	N Red
LD10	P8: 17	GPIO-0-27	E Red
LD11	P9: 19	GPIO-0-22	S Red
LD12	P8: 18	GPIO-0-1	W Red

Q.9] Explain working of Traffic Signal Light.

- Traffic Signal installation is relatively simple. They include a list-set of signal lights & timer to control their operation. The problem is obvious. As traffic is increased the signal could not react to the additional vehicles, making delay common place.
- Traffic signals alternatively assigns the right way to different moments at intersection vehicular traffic is permitted to flow in a strictly controlled manner.
- A controller is used to switch the signal displays the signal sequence of intersections in red, green and yellow.