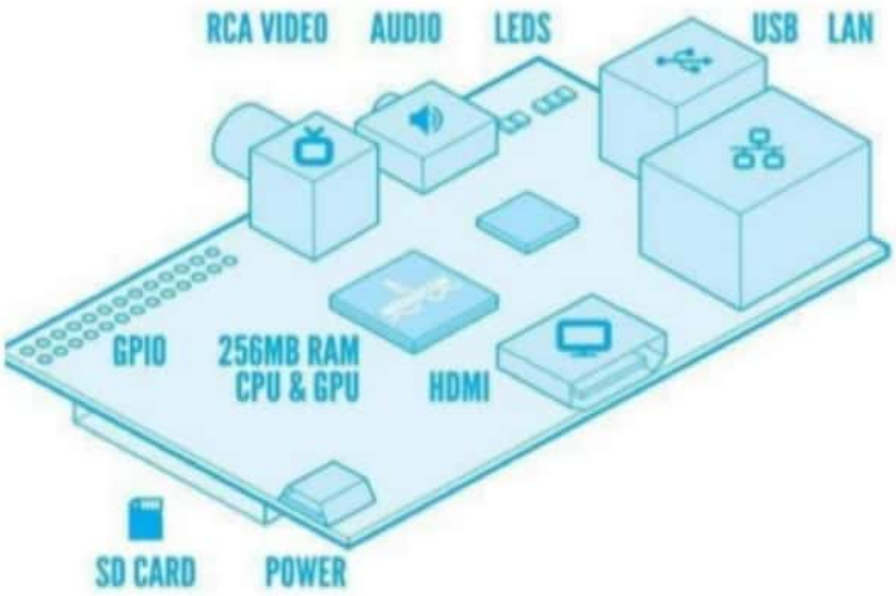
Experiment no :- 3

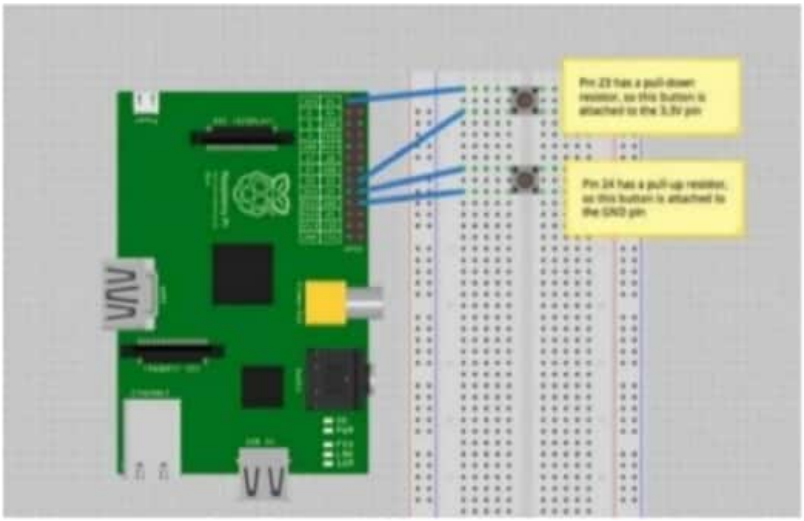
Aim :- study of connectivity & configuration of Raspberry Pi, Beagle board circuit with basic peripherals LED's understanding GPIO & it's use in the program

Theory :-
Connectivity & configuration of Raspberry-Pi Guides to configure Raspberry - Pi

1 raspi - conti
2 config.txt
3 Wireless
4 wireless access point
5 Audio config
6 Camera config
7 External storage config
8 localisation
9. Default on config
10 Device Trees config
11 Kernel Command line
12 UART config
13 Screensaver

Connectivity of Raspberry - pi :-
Connectivity is truely superb for a such tiny device especially on the 2 version of Raspberry Pi. There are 2 USB 2.0 ports that can be used to look up peripherals or adapters & this can be together expanded with a powered hub. It is worth nothing that both ports already share the bandwidth of signal channel of the system bus.





GPO mode :-

The GPIO BOARD option specifies that you are referring to the pins by the "Broadcom kernel number, these are the numbers after" GPIO in the green rectangle around the outside of below dig

- The model B+ uses the same numbering as the model Brzo & adds new pins (27-40)
- The Raspberry Pi zero, Pi 2B + Pi 3B use the same numbering as the B+

Building a circuit :-

In the circuit shown below, two momentary switches one wired to GPIO pins 25 & 24 (16 & 18 on board). The switch on pin 25 is tied to 3.3V, while the switch on pin 24 is tied to ground

To setup pins write

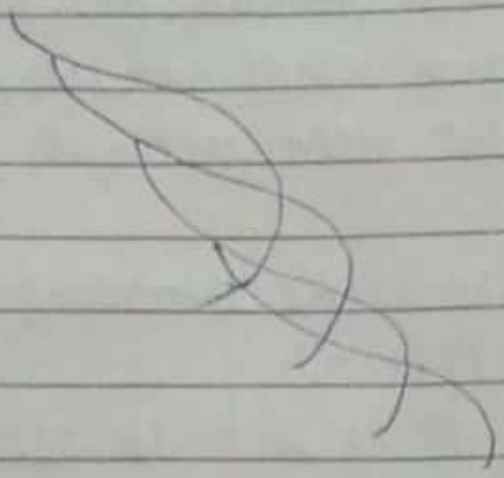
GPIO.setup (23 GPIO.IN, pull-up-down = GPIO.PUD-DOWN)

GPIO.setup (24. GPIO.IN, pull-up-down = GPIO.PUD-UP)

Register :-

You must always use registors to connect LED's up to GPIO pins of your Raspberry-Pi. The Raspberry-Pi can only supply a small current (about 60mA) The LED's will want to draw more & if allowed to they will burn out Raspberry pi Therefore putting the registers in circuit will ensure that only this small current will flow & Pi will not be damaged

Jumper wires :-



Jumpers wires are used in bread boards to jump from one connection to other.

- The ones you will be using in this circuit have different connectors on each end.
- The end with 'pin' will go into Breadboard.

Conclusion :-

Thus, we have studied connectivity & configuration of Raspberry pi and also use of GPIO.