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TE - A 19

Assignment No 3

Aim: Study connectivity & config of Rasberry Pi/Beagle board circuit with basic peripheral LEDs understanding GPIO & its use in the program

Theory

Connectivity & config Rasperry-Pi Guides to

1. raspi config
2. config.txt
3. wireless
4. wirless access point
5. audio config
6. camera config
7. External storage config
8. localisation
9. Default pin config
10. Device tree config
11. Kernel command l
12. UART config
13. screensaver

Connectivity of Raspberry Pi

- It is truely superb for such tiny device esp on the a version at Raspberry Pi There are 2 USB 2 port that can be used to look up periphera or adapters This can be togethes expanded wi a powered hub It is with nothing that both port already share the bandwith of signal channel of the system bus.

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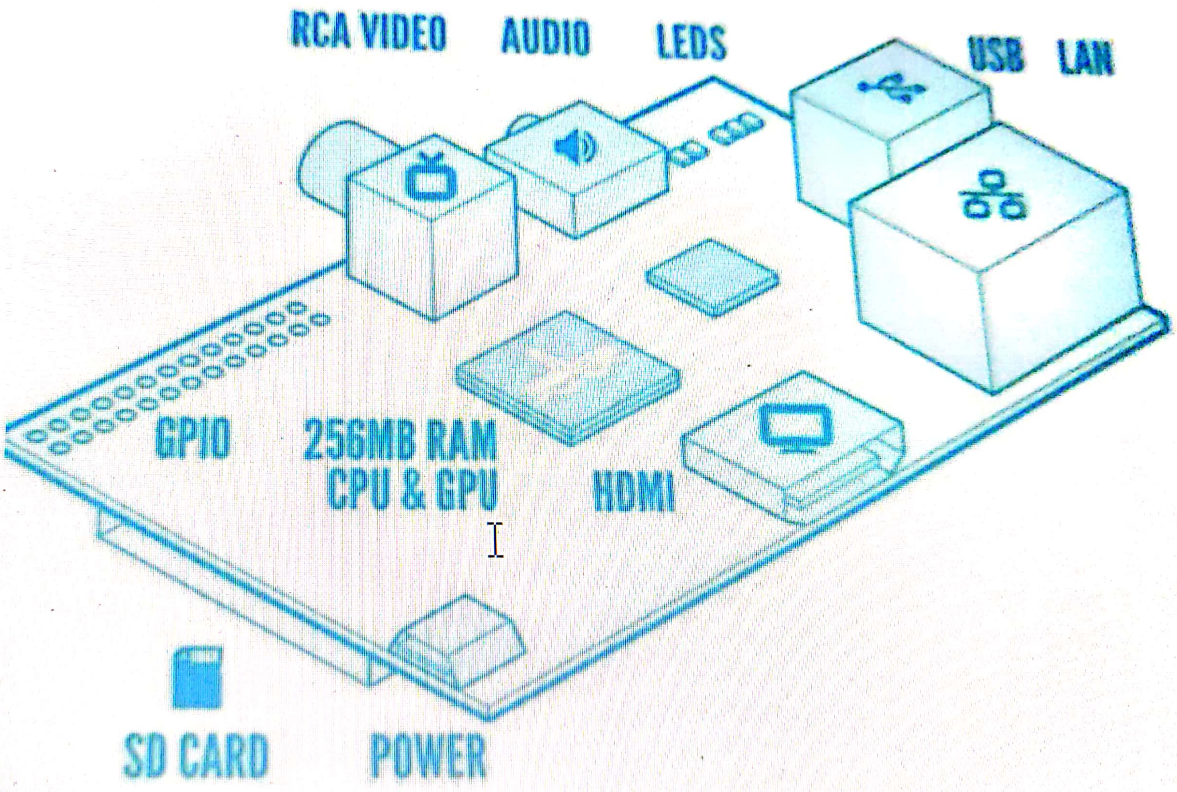
GPO mode:

The GPIO Board option specifies that you are refering to the pins by the Broadcom Kernel no these are the no after GPIO in the green rectangle around the outside of below diag



- The model B+ uses the same numbering as the model B rev 2.0 & adds new pins (27-40)
- The Raspberry Pi 0, Pi 2B & Pi 3B use same numbering as the B+

Building the circuit

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

To setup pin write

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

GPIO setup (24 GPIO. IN. Pull-up-down = GPIO PUT-up)

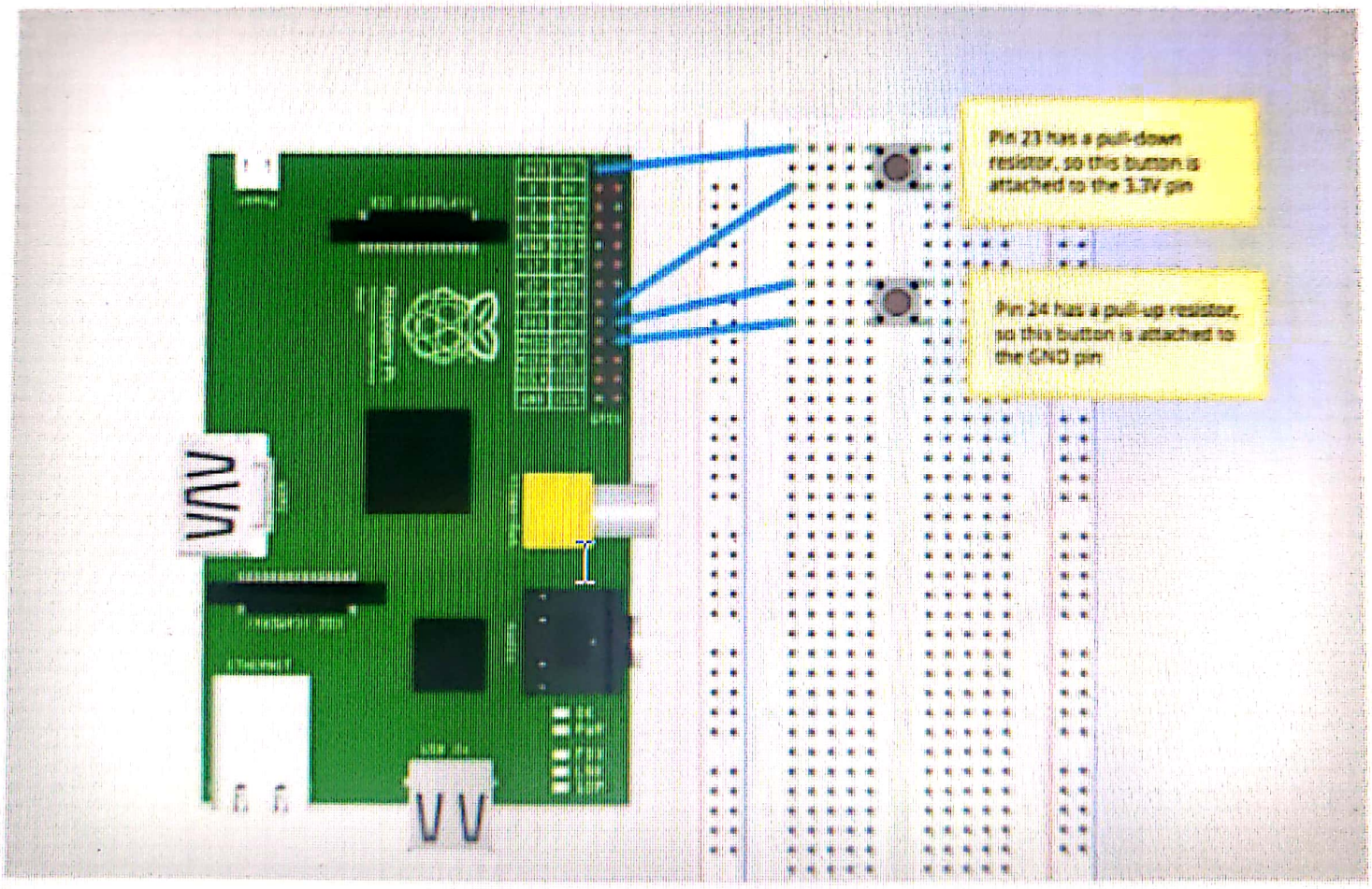
= Register

You must always use register to connect LEDs upto GPIO pins to Raspberry Pi the Raspberry Pi can only supply a small current (about 60mA) The LEDs will want to draw more & if allowed to they will burn out Raspberry pi. ∴ putting the resistors in circuit will resume ensure that only this small current will flow & Pi will not damaged

= Jumper wires

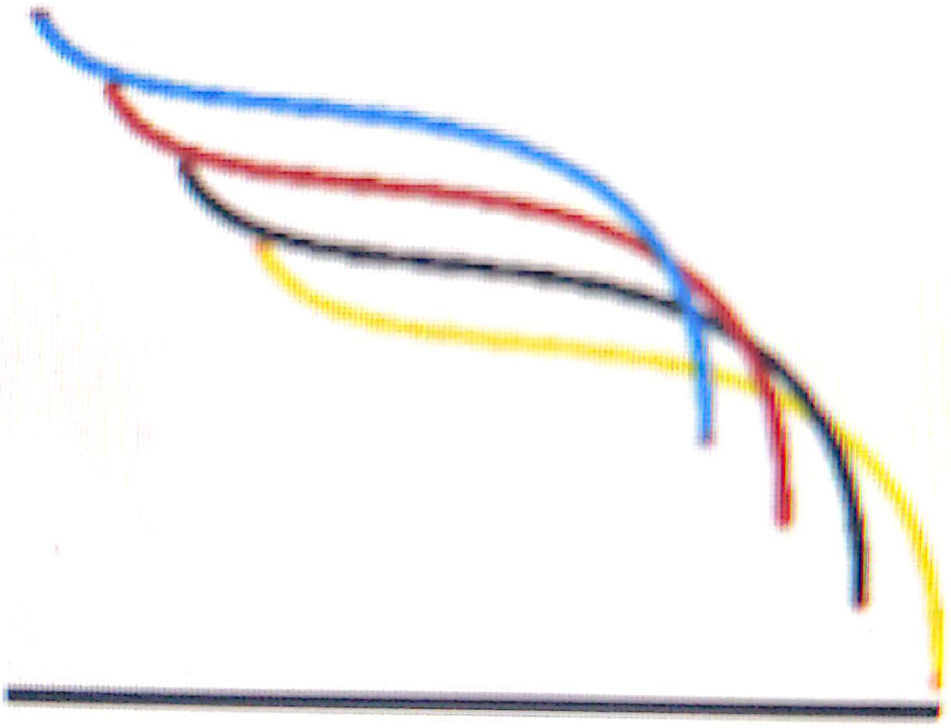
Used in breadboard to jump from one connection to other

- The wires you will be using in circuit have diff connectors on each end
- The end with '6 pin' will go into Breadboard.



Resister

Jumper Wires



Conclusion

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