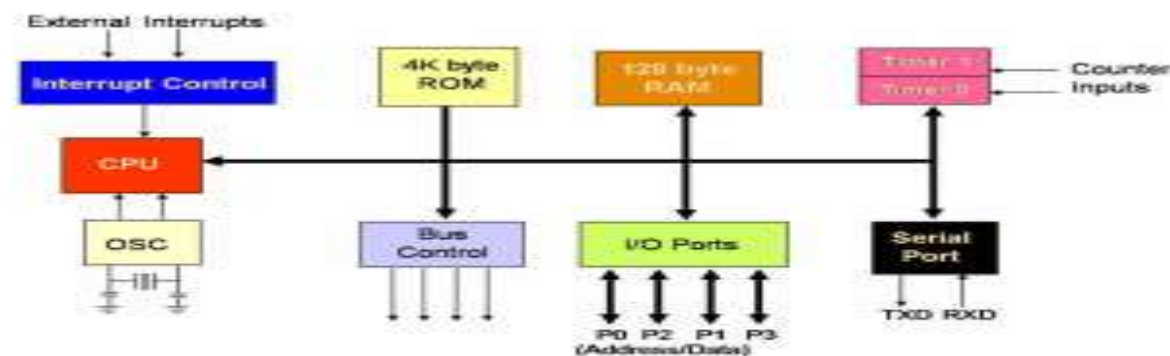


Interfacing in 8051

- ❖ Interfacing is the process of connecting devices together so that they can exchange the information and that proves to be easier to write the programs.
- ❖ Interfacing is one of the important concepts in microcontroller 8051 because the microcontroller is a **CPU that can perform some operation** on a data and gives the output. However to perform the operation we need an **input device to enter the data** and in **turn output device displays the results of the operation**.
- ❖ There are different type of input and output devices as for our requirement such as LEDs, LCDs, 7segment, ADC, keypad, motors, sensors etc.



Microcontroller 8051 Peripheral devices

Interfacing LED with 8051

- ❖ LEDs are most commonly used in many applications for indicating the output.
- ❖ They find huge range of applications as indicators during test to check the validity of results at different stages.
- ❖ They are very cheap and easily available in a variety of shape, color and size
- ❖ **LED principle of operation**
 - A simple LEDs also servers as a basic display devices, it On and OFF state express meaning full information about a device.
 - The common available LEDs have a 1.7v voltage drop that means when we apply above 1.7V, the diode conducts. The diode needs 10mA current to glow with full intensity
 - LEDs can be interfaced to the microcontroller in either common anode or common cathode configuration. Here the LEDs are connected in common anode configuration because the common cathode configuration consumes more power

Source code:

```
#include<reg51.h>
void main()
{
    unsigned int i;
    while(1)
    {
        P0=0x00;
        for(i=0;i<30000;i++);
        P0=0xff;
        for(i=0;i<30000;i++);
    }
}
```

