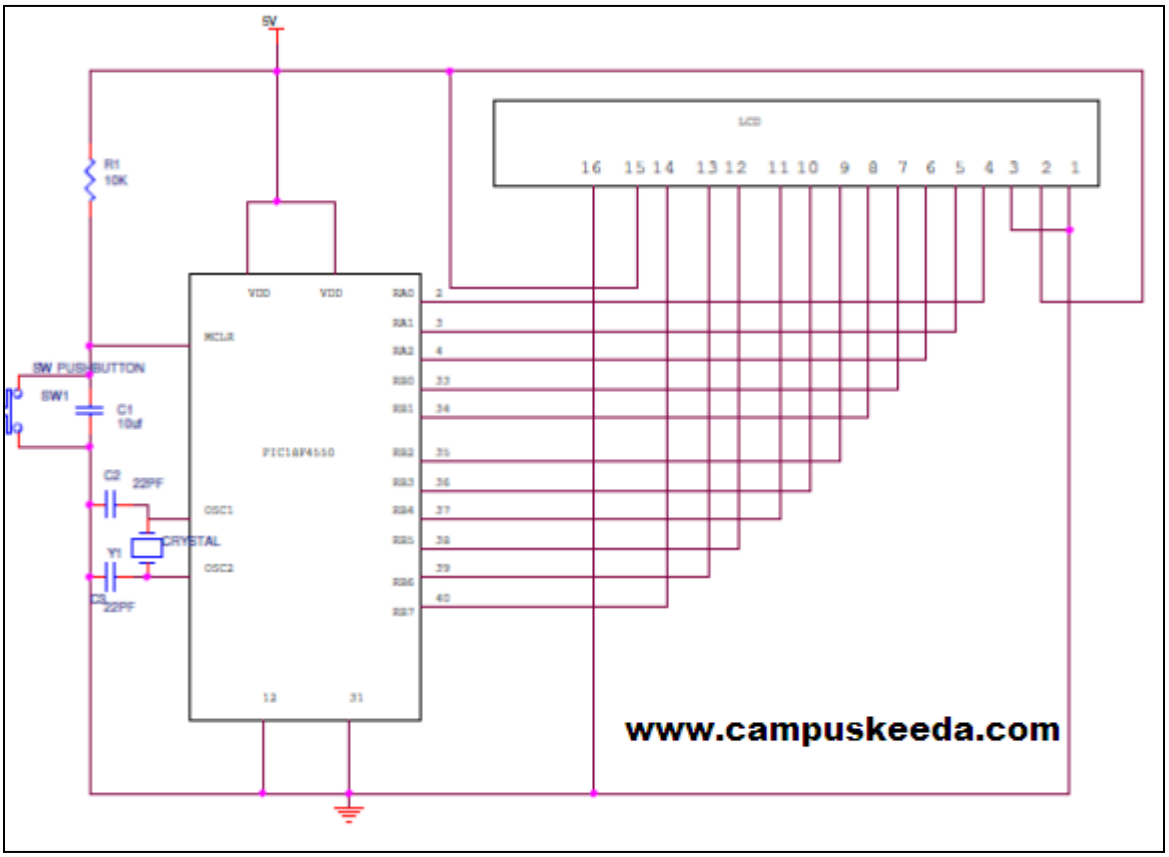
Interfacing16X2 LCD with PIC Microcontroller

In this session we will see how to interface 16×2 LCD to PIC18F4550 microcontroller which is of family PIC18F. You can get information of 16×2 LCD in the session "16×2 LCD INTERFACING 8051".

Features of PIC18F4550:

- PIC18F4550 belongs to the PIC18F family; PIC18F4550 is an 8bit microcontroller and uses RISC architecture. PIC18F4550 has 40 pins in PDIP (dual in line package) and 44 pin in TQFP (Quad flat package).
- 32KB flash memory, 2048 bytes of SRAM (synchronous Random Access memory), EEPROM (Electrically Erasable Program Read Only Memory) of 256 bytes are embedded in the PIC18F4550.
- It has 35 I/O pins for interfacing and communication with other peripherals, 13channel of 10bit analog to digital converters which are used for interfacing and communicating the analog peripherals (DC motor, LDR, etc.).
- It has 2 CCP and 1 ECCP module that is enhanced capture and compare module which is mainly used for modulation and waveform generation functions. CCP module is of 16bit register works as 16 capture bit register, 16 compare bit register, and PWM and duty cycle register.
- PIC18F4550 has SPI (serial peripheral interface) and i2c (inter integrated circuit) for master and slave modes. It has SPP (Streaming Parallel Port) for USB streaming transfer.
- PIC18F4550 is embedded with 4 timer modules (timer0 to timer3), 2 comparator modules and 3 external interrupt. It has Dual Oscillator options allow microcontroller and USB module to run at different clock speeds. It can operate in 2.0V to 5.5V

16X2 LCD Interfacing PIC Microcontroller Circuit Diagram:



16X2 LCD Interfacing PIC Microcontroller – Circuit Explanation:

The resistor R1 is used for giving the contrast to the LCD. The crystal oscillator of 12 MHz is connected to the OSC1 and OSC2 pins of Pic microcontroller PIC18F4550 for system clock. The capacitor C2 and C3 will act filters to the crystal oscillator. You can use different ports or pins for interfacing the LCD before going to different ports please check the data sheet whether the pins for general purpose or they are special function pins.