**DISPLAYING THE BCD SUM**

**Aim:** To display the sum of two BCD digits on an LCD display, after taking the inputs from a 4\*4 matrix keyboard.

**Planned Procedure:**

* Prompt the user to input a maximum of 10 BCD numbers, with each one having 3 digits at maximum.
* The input has to be taken via a 4\*4 matrix keyboard, by using I/O interrupts.
* Accept the inputs on key press.
* Display the numbers [Right Justified] on an LCD screen.
* Make a provision to cancel the most recently entered digit(s).
* Find the BCD sum of the 2 numbers.
* Display the BCD sum on the LCD screen.

**Inference:**

* ***Implementation of the BCD number format***

An unsigned character array of data has been initialised accordingly, ranging from 0 to 9. This way, ’a’, ’b’, ’c’, ’d’, ’e’ and ’f’ are eliminated at the start.

unsigned char data[][]={'0','1','2','3','4','5','6','7','8','9','c','k'};

* ***Implementation of Right Justify***

Configure using 0x8F

* ***Clearing the digits on cancellation***

If the display is right justified, then shift the display to the right, whenever the user presses the respective ‘clear’ key.

* ***Summation***

Carry is handled automatically, on adding two BCD integers. We are working with integer values (not hexadecimal).

**Requirements/Components:**

1. ARM’S NXP LPC 1768 CHIP
2. CNA (Keyboard) and CND (LCD Display)
3. 2 FRC cables (8 inches)
4. POWER SUPPLY (+ 5v)
5. 1 USB CABLE (for downloading software from the host)