Pin number	Symbol	Level	I/O	Function	
11	DB4	0/1	I/O	Data bus line 4	
12	DB5	0/1	I/O	Data bus line 5	
13	DB6	0/1	I/O	Data bus line 6	
14	DB7	0/1	I/O	Data bus line 7 (MSB)	
15	VB+	1	-	Paaklight Supply	
16	VB-	0	-	Dacklight Supply	

Sr. No.	Command to LCD instruction	Code (Hex)
01	Clear display screen	01
02	Return home	02
03	Decrement cursor (shift cursor to left)	04
04	Increment cursor (shift cursor to right)	06
08	Display off, cursor on	COA
09	Display on, cursor off	0C
10	Display on cursor blinking	0E
11	Shift cursor position to let	10
12	Shift curser beetton to right	14
15	Tree cursor to beginning of 1 st line.	80
pre	Force curse to devinning of 2 nd line.	<u>C</u> 0
17	2 lines and 5x7 matrixes.	38

LCD FUNCTIONS

1.begin()

Initializes the interface to the LCD screen, and specifies the dimensions (width and height) of the display.

Syntax

lcd.begin(cols, rows)

Parameters

lcd: a variable of type LiquidCrystal cols: the number of columns that the display has

rows: the number of rows that the display has

Example

lcd.begin(16,2);----initializes 16*2 LCD

INTERFACINGDIAGRAM:



2. Configure the LCD Interfacing with Arduino Pins as given below

LCD Pins	Arduino Uno
Register Select (RS)	Digital 2
Enable (EN)	Digital 3
Data bit4 (D4)	Digital 4
Data bit5 (D5)	Digital 5
Data bit6 (D6)	Digital 6
Data bit7 (D7)	Digital 7

3. In Setup function

- a. Set up the LCD's number of columns and rows.
- b. Print Message on first line of LCD
- c. Set Cursor of LCD to 2nd line first column.
- d. Print Message on second line of LCD

CODE/PROGRAM/SKETCH:

[Q. write sketch to transmit and receive data serially from arduino uno]

```
void setup() {
Serial.begin(9600); // initialize serial ports:
Serial.println("Smart Logic Technologies");
Serial.println("Serial Communication Demo");
Serial.println("Please send data");
}
void loop() {
 // read from com port, and send it again
4. <u>Tipers in Ardupage</u>
Timer is a circuit incide **
The Arduine IP
```

- Timer0 An 8 bit timer used by Arduino functions delay(), millis() and micros().
- Timer1 A 16 bit timer used by the Servo() library
- Timer2 An 8 bit timer used by the Tone() library