Experiment No: 4

Title: 8051 – Interfacing Seven Segment with 8051

Class: T.E. **Year:** **Semester: Five**

Roll No.: **Name:**

Date of performance: **Date of Submission:**

Signature:

AIM: **Interfacing Seven Segment with 8051**

S/W AND H/W TOOLS: Keil IDE, 8051 kit, Flash Magic

THEORY:

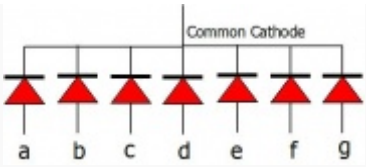
Basic 7 segment Display

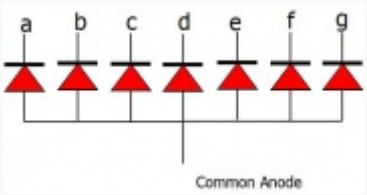
Well, the name 7 segments imply there are 7 LED segments arranged as shown in figure 1. After LEDs, these are the easiest interfaces to a microcontroller. There is also a decimal point or dp. It is used when decimal digits like 5.1 etc are displayed.

- **Sizes**:They come in various sizes; 0.28”, 0.3”, 0.32”, 0.36”, 0.39”, 0.4”, 0.5”, 0.56”, 0.6”, 0.8”, 1.0”, 1.2”, 1.5”, 1.8”, 2.0”, 2.3”, 3.0”, 4.0”, 5.0”, 7.0”)
- **Colors**: and varied colors too; Red, Green, Yellow, Orange, Blue, and White.

Working

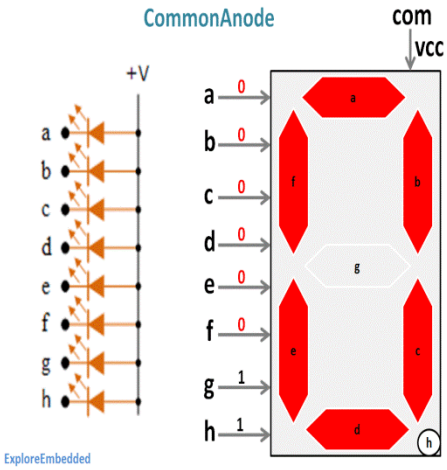
Since these are basically LEDs arranged as a group, they can either have the anode in common or cathode thus they are named as Common-Anode/Common-Cathode displays.





- **Common Cathode**: In this type of segments all the cathode terminals are made common and tied to GND. Thus, the segments **a** to **g** needs a logic High signal(5v) in order to glow.

- **Common Anode**: In this type of segments all the anodes' terminals are made common and tied to VCC(5v). Thus the segments **a** to **g** needs a logic LOW signal (GND) in order to glow.

- 

Digit	h	g	f	e	d	c	b	a	Hex Value
0	1	1	0	0	0	0	0	0	0xC0
1	1	1	1	1	1	0	0	1	0xF9
2	1	0	1	0	0	1	0	0	0xA4
3	1	0	1	1	0	0	0	0	0xB0
4	1	0	0	1	1	0	0	1	0x99
5	1	0	0	1	0	0	1	0	0x92
6	1	0	0	0	0	0	1	0	0x82
7	1	1	1	1	1	0	0	0	0xF8
8	1	0	0	0	0	0	0	0	0x80
9	1	0	0	1	0	0	0	0	0x90

INTERFACING DIAGRAM:

CONCLUSIONS: