**Segment Display Types**

7-segment display has 2 types ; whether it is the **common anode**or a **common cathode**.

Where for common cathode type cathodes are connected together and common point is connected to the ground. While for common anode, anode are connected together and common point is connected to +V.

For this project, I used the common **cathode type.**

Here are binary bit pattern that will be send to PORTD

|  |  |  |
| --- | --- | --- |
| **Number** | **A B C D E F G** | **PORTD (Hex)** |
| 0 | 0 0 1 1 1 1 1 1 | 0x3F |
| 1 | 0 0 0 0 0 1 1 0 | 0x06 |
| 2 | 0 1 0 1 1 0 1 1 | 0x5B |
| 3 | 0 1 0 0 1 1 1 1 | 0x4F |
| 4 | 0 1 1 0 0 1 1 0 | 0x66 |
| 5 | 0 1 1 0 1 1 0 1 | 0x6D |
| 6 | 0 1 1 1 1 1 0 1 | 0x7D |
| 7 | 0 0 0 0 0 1 1 1 | 0x07 |
| 8 | 0 1 1 1 1 1 1 1 | 0x7F |
| 9 | 0 1 1 0 1 1 1 1 | 0x6F |

As shown in above table, we send the hex value of the number to the PORTD of Pic microcontroller that we want to display. We will use only 7-bits of PORD to send data to segments from a-g.