

## Lab. Timer

Instructions:

A **Digital Decoder** IC, is a device which converts one digital format into another and one of the most commonly used devices for doing this is called the Binary Coded Decimal (BCD) to 7- Segment Display Decoder.

7-segment **LED** (Light Emitting Diode) or **LCD** (Liquid Crystal Display) type displays, provide a very convenient way of displaying information or digital data in the form of numbers, letters or even alphanumerical characters.

## Buzzer

A buzzer is a device, which makes a buzzing or beeping noise.

## Hardware Required

- 7-segment Display Decoder
- 4 10K resistors to connect the d-switch
- 2 220 Ohm resistor to connect the display
- 1 resistor 100 Ohm from the buzzer
- 1 Buzzer
- Dip-switch
- hook-up wires
- breadboard

**In this circuit, only the dswitch 1,2 and 4 work.**

**The first star/stop the counter.**

**The second; increment the counter.**

**The fourth one; decrement the counter.**

## Challenge:

**The third dswitch port, we should add the instruction to reset the buzzer and stop the sound.**

