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Digital clock for displaying time of the day

I have used all 5 buttons.

1.) First button is the reset button. On pressing this, clock will reset to 00:00:00.

2.) Display mode button. I have defined 2 different display modes HH:MM and MM:SS between which we can switch using the display mode button.

3.) Edit Mode button. On pressing this, we will enter edit mode and will be in this mode until we press this button again.

4.) left button. This will work only in edit mode. This will allow the user to move leftwards in the clock always starting from the rightmost LED. {Will continue to move the button in circle ie. after 3, we go to 0}

5.) Increment button. Increment button combined with left button will allow the user to set any time on the clock. We can only increase value of current digit using increment button {If reached "9" and pressed, will start from "0"}.

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A clock of 100 MHz is used.
Using this clock, I have managed to get 2 clocks of 1 Hz and 2 Hz frequency.

In the HH:MM display mode, there will be a dot flashing at the rate of 1 Hz which is an indication of "seconds" passed.

→ Refresh period of 4 ms is used.

→ Digit Period = $\frac{\text{Refresh Period}}{4}$ = 1 ms

~~→ In both display modes, the 2nd dot, i.e. the dot after 2nd digit will be kept "ON" just to differentiate between hours, minutes or minutes~~

→ In both display modes, the 2nd dot i.e. the dot after 2nd digit will be kept "ON". This is done so as to differentiate between Hours and Minutes in HH:MM mode and Minutes and Seconds in HH:SS mode.

→ We have 4 anodes, each for one LED and all LEDs have a common set of cathodes.

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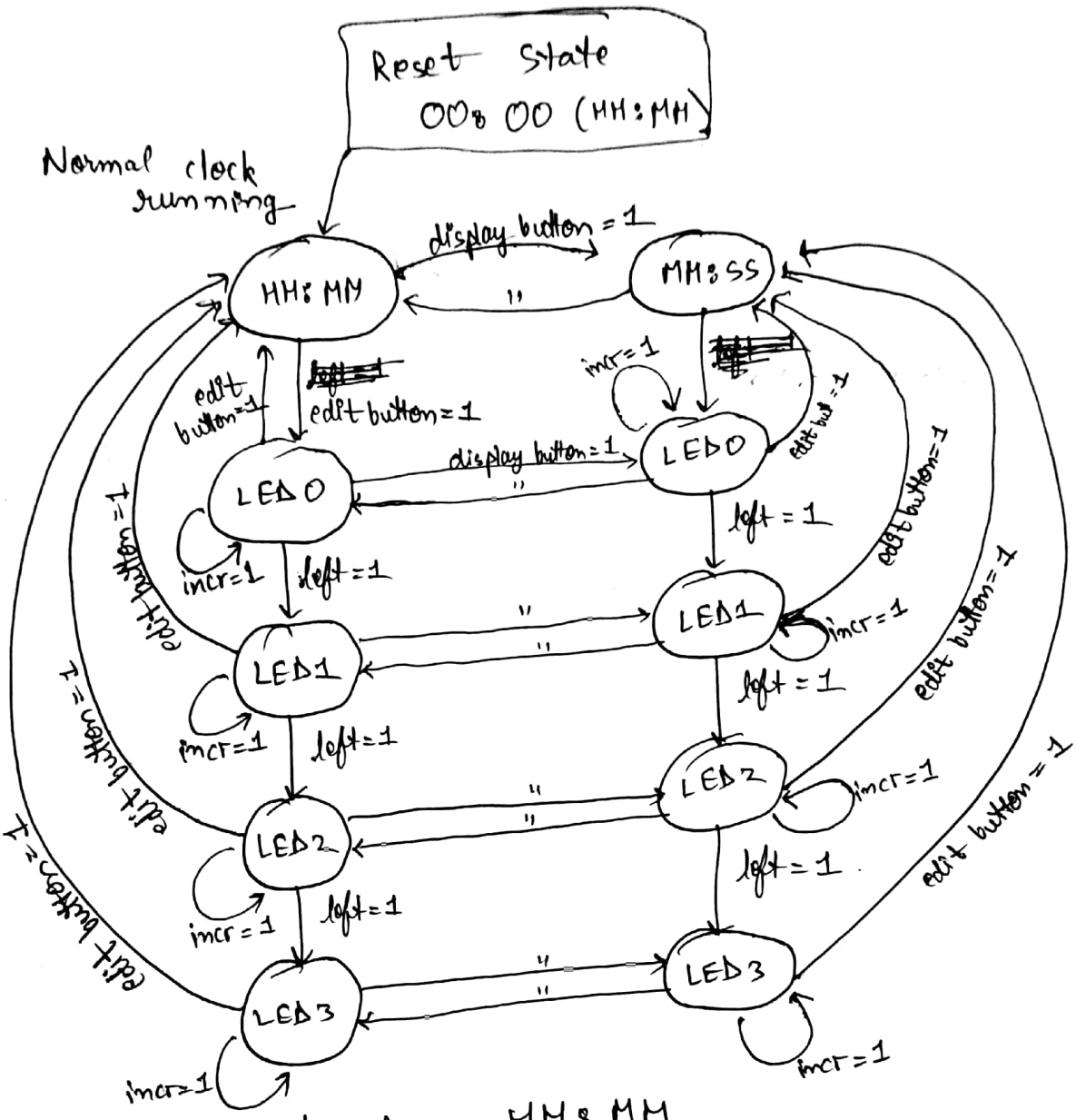
→ FSM



→ Default display mode is HH:MM

→ From all ● states, if reset button is pressed i.e. reset = 1, then we will go to reset state.

→ While in edit mode, if display button is pressed, I will remain in edit mode but my state will be the other display mode on same LED.

→ While in edit mode, if reset is pressed, I will exit edit mode and go to Reset State.

→ Increment button will work only when edit button is pressed.
If I am in k^{th} LED and increment is pressed, I will continue to be in k^{th} LED with that digit incremented.

→ 0 input value is not shown in FSM, because 0 input of any button is equivalent to that button being not pressed, so that will not affect my clock.