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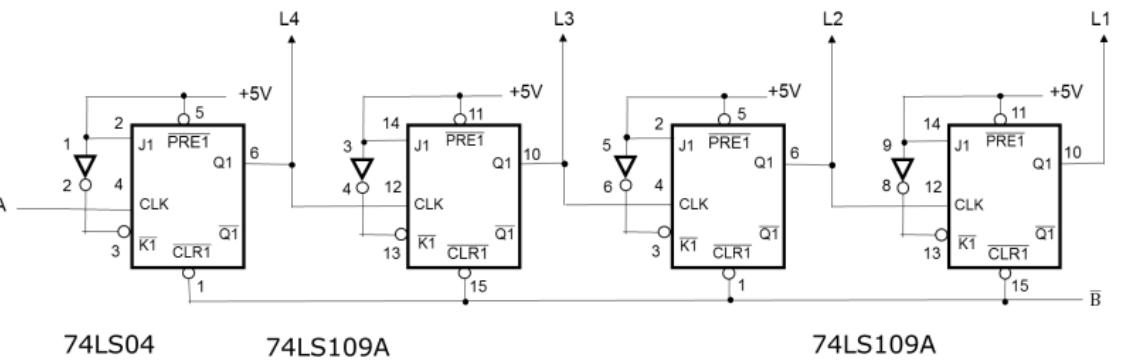
Wednesday lab session 12:00-3:00

Experiment #4: Binary Counters and Shift Registers

Aim: Practice implementation of asynchronous and synchronous binary counters and shift registers

Results:

- We began by connecting up the asynchronous binary counter shown below using 74LS109A and 74LS04 IC packages.



- We proceeded to toggle the clock switch several times to light up a couple of the LED's. We then pressed switch B' then released it again and found that the counter changed when B' went from low to high, which made the input CLR' go high.
 - Next, we created the truth table shown below for the outputs of L1-L4 after each pulse of A. We found that the counter state changed on the rising edge of A and the circuit functioned as a binary down counter.

Pulse #	L1	L2	L3	L4
0	0	0	0	0
1	1	1	1	1
2	1	1	1	0
3	1	1	0	1