Laboratory 8: Flip flops and counters

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J K Flipflop

Verify two input J-K flipflop for 74HC112 chip. Demonstrate the truth table for JK flipflop to your instructor or Lab-incharge. Remember to connect Set and Reset pin to 5V (logic HIGH). Modify the above circuit to Toggle flipflop and provide a demo of this to the instructor. Capture the clock signal and output signal and justify the relation between the output and clock signal. If we provide the output of the T-flipflop as clock signal to another T-flipflop and capture the output signal from second T flipflop, keeping the clock signal same to other T Flipflop, justify the relation between output and clock signal.

If K is applied with an inverted signal of J, how does the circuit resemble ?

One of your exam question can be whether you can demostrate the register functionality using J-K flipflop ?

74LS469 8 bit up/down counter

Demonstrate the operations of 8 bit up/down counter using 74LS469 chip and glowing the LEDs at the output. Use arduino microcontroller to drive the 5V Vcc supply. The operations of 74LS469 functional table is given in the datasheet which is uploaded in LMS. Load the counter value from 00000010 and check the output for incrementing counter. Similarly show the decrementing counter starting from 11110000 value.