

- ### Circuit Diagram

- a. Just set SW_2 to logic low. Due to this, clock pulses of pulsar are received in IC 7493. As I am using MOD8 mode, $Q_3Q_2Q_1$ will take values from 000 to 111 and back to 000 and this cycle continues till simulation runs.
5. The lamps are connected for determining the current address where the data is being written/read.
6. As the RAM1k has $2^{10} = 1024$ distinct address, each capable for storing 8 bits. For this experiment, as we are dealing with only 8 character, each having only 4 bits information, hence the address terminals A_3, A_4, \dots, A_9 are all set to logic low and we are only interested in the least significant 4-bits for the display, hence only IO_3, IO_2, IO_1, IO_0 is used in the circuit while other are floating.
7. For displaying the characters on different 7-segment displays, IC 74138 (3:8 Decoder with active low outputs) was used. $Q_3Q_2Q_1$ was used as input to the IC, and the output terminals were connected to ground of corresponding common-cathode 7-segment display.