COL215: LAB Assignment 10

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Working: The serial receiver and transmitter designed in previous assignment is used here along with memory module along with timing circuit. We have received serial input which is stored in register and passed to memory. We have used the exact same circuit of the memory which was given to us. With the help of timing circuit which we implemented from the flow chart given, we passed this value of register created by receiver, to transmitter which further displayed the value stored.

Note: Unlike Assignment9 where our transmitter starts functioning (i.e. starts transmitting rx_reg serially) just after our receiver finishes its job of receiving serial input of 8 bits. The value transmitted by transmitter was echoed back and again received by receiver and thus a loop was created. Here a push button is assigned for transmitter to transmit. When it is pressed value transmitted is fetched from memory and starts transmitting which was used to display not echoed back to receiver unlike assignment9.

Testing of the setup: Verified using gkt term. We gave some input via keyboard on gkt term which was received serially by receiver and stored in register and accordingly the LEDs were glowing depicting the 8 bit value in register. The same value was passed through memory via push button and again displayed on LEDs to verify and finally given to parallel input to transmitter which further gave serial output and same value was again printed.

Status of Job: Completed. Created four module-

1. Reciever.vhd
2. Transmitter.vhd
3. Memory.vhd
4. Timing.vhd

Also submitted following files along with above and this Readme-

1. Assignment10.bit
2. Assignment10.xdc