CS221-Assigment
Post Mid Sem Assignment No: 2

Due date for submission : 8 Nov 2020

Submission procedure: Written/typed upto four pages and submit/upload PDF document (scanned copy of written) on to CS221 MS Team assignmentupload

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1)   Design a 3 bit gray counter which counts 000, 001, 011, 010, 110, 111, 101, 100, and repeat. The counter output Z=1 when the value of the counter is 0. The counter counts when the input value is X=1.

- Draw Moore FSM diagram for the specified counter.
  - Implement the counter based on Moore FSM using D-FFs (No need to draw circuit diagram of the counter, but required to next state Boolean function input for inputs of the FFs)
  - Implement the counter based on Moore FSM using JK-Ffs

- Draw Melay FSM diagram for the specified counter
  - Implement the counter based on Moore FSM using T-FFs
  - Implement the counter based on Moore FSM using RS-FFs

2)   A long sequence of pulses entering a synchronous sequential circuit which is required to produce an output Z=1, whenever sequence 1111 occurs. Overlapping sequences are accepted. For example, if the input is 01011111, the required output is 00000011. Design the circuit of the system.

- Draw Moore FSM diagram for the same.
- Implement the same using D-Ffs (No need to draw circuit diagram of the counter, but required to next state Boolean function input for inputs of the FFs)