HDLBits Practice Problems

1. Simple FSMs
   - Simple FSM1 (asynchronous reset) (link)
   - Simple FSM1 (synchronous reset) (link)
2. Simple One-hot state encoding transition (link)
3. Serial two's complement
   - Moore Machine (link)
   - Mealy Machine (link)
4. Q2a: FSM (link)

Recommended Videos (Optional)

1. Datapath and Control design
   by **NPTEL**
   - **3 videos** that explain the glimpse of using all what you've learnt to build multipliers
   - contain the code snippets of the multiplier
     - Part(1) link
     - Part(2) link
     - Part(3) link
2. Swap Two memory locations using FSM
   by **Anas Salah Eddin**
   - learn how to write HDL for a memory and Datapath as along as control unit to swap memory locations
   - Video_link

References (Optional)

- Advanced Digital System Design A Practical guide to verilog based FPGA and ASIC Implementation

(for FSMs see. **CH.06**
Recommended to check other Chapters)

- CMOS VLSI Design A circuits and Systems Prespective

(see **CH.05** to know about Power consumption in digital ICs)