**Tutorial 3 – State Machines**

(A) Build a sequence recognizer for the pattern 1001 using 2 JK-Flip-Flops

1. Start with the state diagram form the lecture notes
2. Set up a new state transition table with JK inputs.
3. Derive the JK and output equations, then minimize each output function
4. Draw the completed circuit diagram

(B) Build a sequence recognizer for the pattern 1100 using 2 D-flip-flops

1. Draw a state diagram with transitions and input / output
2. Set up a state transition table.
3. Derive the transition equations for the output functions, then minimize each output function
4. Draw the completed circuit diagram