

- P1. (15 points) Problem 6.35 in textbook.
- P2. (15 points) Problem 6.36 in textbook.
- P3. (20 points) Problem 6.40 in textbook.
- P4. (10 points) Problem 6.42 in textbook. Assume for simplicity that n is a power of 2.
- P5. (20 points) We would like to design a synchronous sequential circuit with two inputs A_1 and A_0 , and one output Z . The two inputs are interpreted as a two-bit unsigned integer A_1A_0 . Assume the input combination $A_1A_0 = 11$ will never happen. In other words, the inputs represent an integer from 0 to 2. The circuit will produce an output of 1 if the sum of the last two inputs in the input sequence is 3. Please draw the state diagram of a Moore-type FSM for the circuit. Please draw your diagram as clearly as possible.
- P6. (20 points) Repeat P5 above but design a Mealy-type FSM instead.