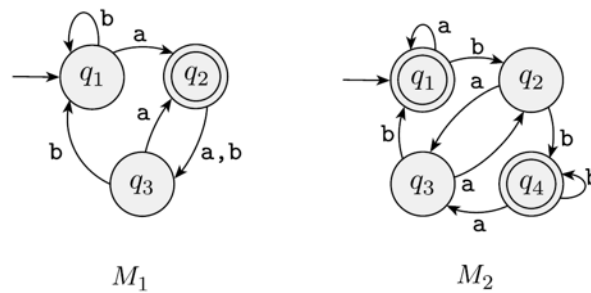**Guideline:** This exercise is based on the reading for Lecture 2: **Section 1.1 (Sipser)**. These questions must be done individually. No justification is required. The completed HW must be handed back at the beginning of next lecture.

Problem 1. Based on the examples and definition of a finite automaton given in the reading, answer the following questions about the state diagrams of two DFAs, M_1 and M_2.

M_1 M_2

(a) State the set of **accept states** F_1 and F_2 for both M_1 and M_2 respectively.

(b) What sequence of states does M_1 go through on input $aabb$?

(c) Does M_1 accept the string $aabb$?

(d) Does M_2 accept the string ε?