1. [10 pts] Construct a DFA that accepts the set of strings over \( \{ a, b \} \), which do not contain the substring \( aab \). (Problem 5.8, P. 185)

2. [10 pts] Construct a DFA that accepts the set of strings of even length over \( \{ a, b, c \} \) that contain exactly one \( a \). (Problem 5.15, P. 185)

3. [10 pts] Give the state diagram of an NFA that accepts the language \((abc)^*a^*\). (Problem 5.25(c), P. 186)

4. [20 pts] Use Algorithm 5.6.3 (Construction of DM, a DFA Equivalent to NFA-\( \lambda \) M) to construct the state diagram of a DFA equivalent to the following NFA-\( \lambda \):