Chapter 1.1 Practice

1. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that start with an a.
2. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that end with an a.
3. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain an aba.
4. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain at least 3 b's.
5. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain a string of 3 b's.
6. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain exactly two a's and ends with a b.
7. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that starts with b and contains the string aa.
8. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain at least 1 b and at least 3 a's.
9. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain an even number of a's and exactly one b.
10. Give the state diagram for a DFA with $\Sigma = \{a, b\}$ that accepts precisely the strings that contain at least 2 a's and at least 3 b's.