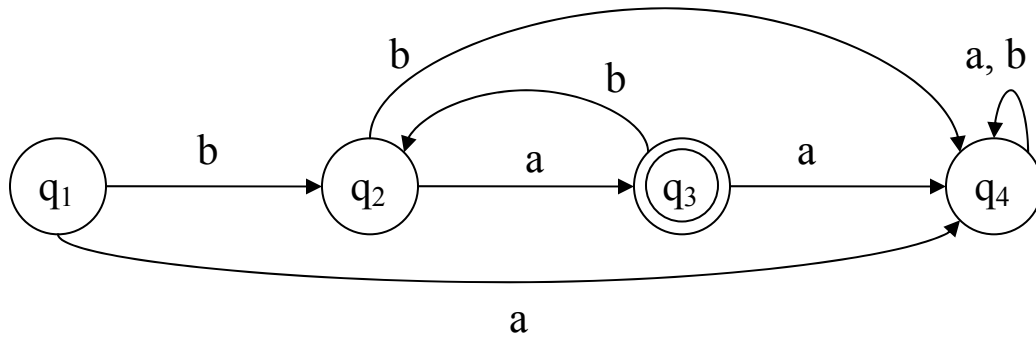
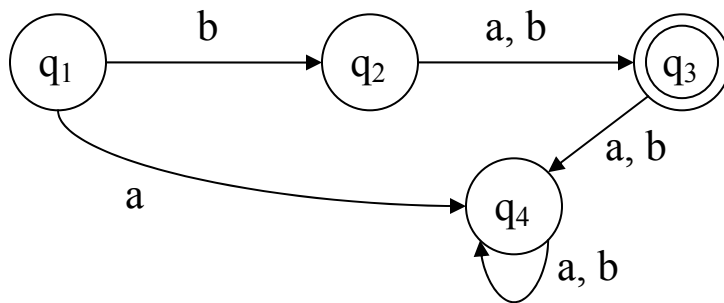


PSYCH/CS L 271 – FINITE AUTOMATA PRACTICE

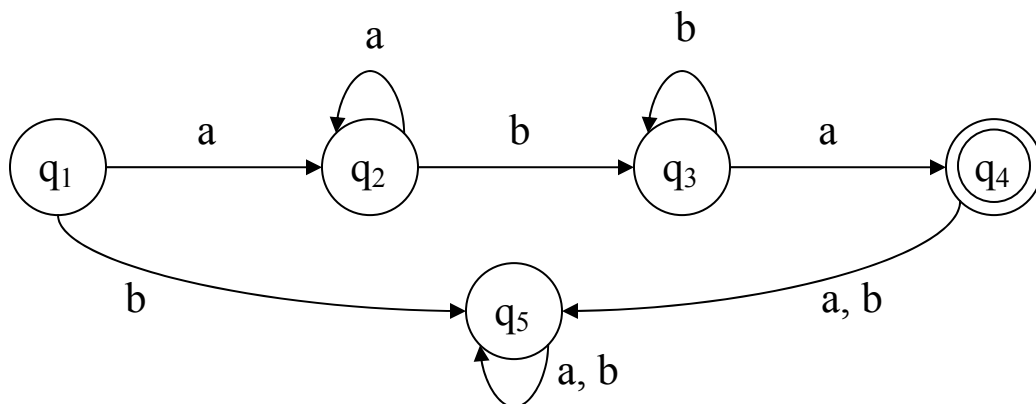
Here are some more finite automata and the languages they accept. You can use them to practice building automata and determining languages.



$$L = \{ba, baba, bababa, babababa, \dots\} = \{b\} \cdot \{a\} \cdot (\{b\} \cdot \{a\})^*$$

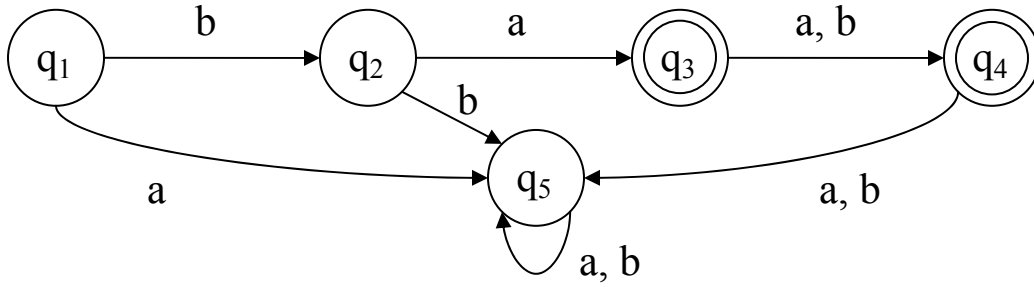


$$L = \{ba, bb\} = \{b\} \cdot (\{a\} \cup \{b\})$$

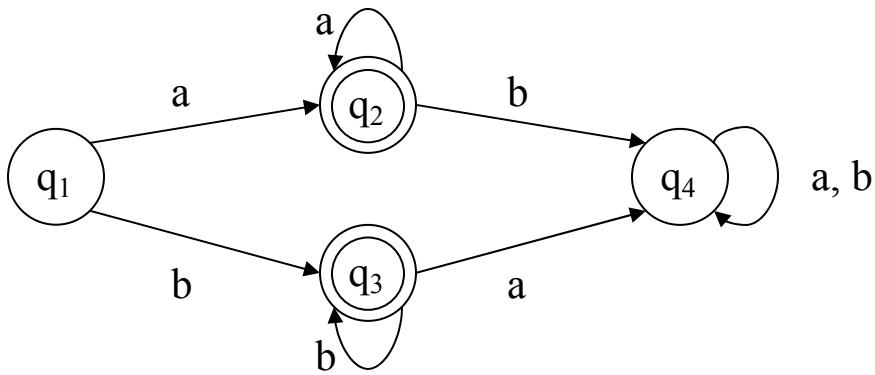


$$L = \{aba, aaba, aaaba, aaabba, aaabbba, \dots\} = \{a\} \cdot \{a\}^* \cdot \{b\} \cdot \{b\}^* \cdot \{a\}$$

(any number of a's (at least one) followed by any number of b's (at least one) followed by one a)

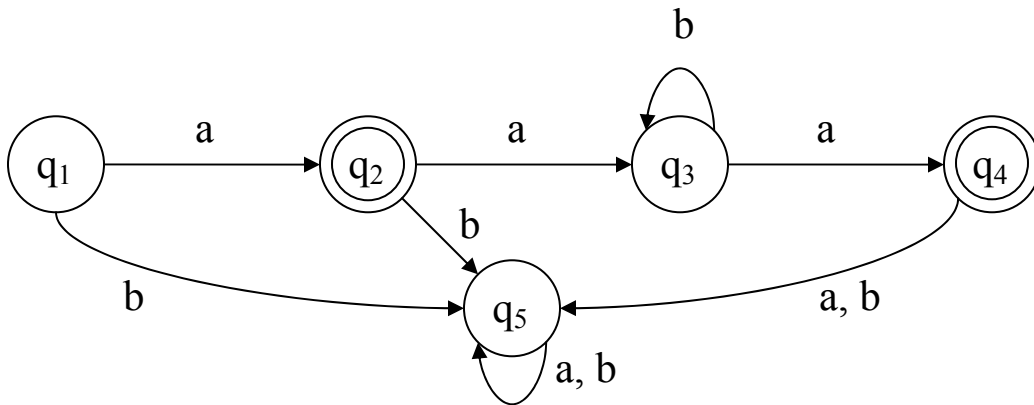


$$L = \{ba, baa, bab\} = \{b\} \cdot \{a\} \cdot (\{a\} \cup \{b\} \cup \{0\})$$

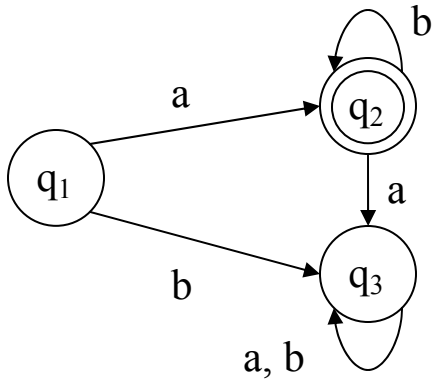


$$L = \{a, aa, aaa, aaaa, \dots, b, bb, bbb, bbbb, \dots\} = (\{a\} \cdot \{a\}^*) \cup (\{b\} \cdot \{b\}^*)$$

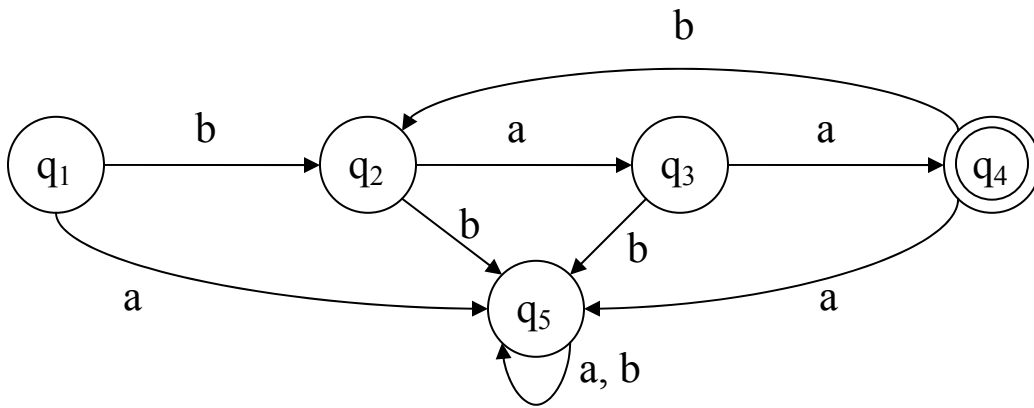
(any string that contains only a's or only b's)



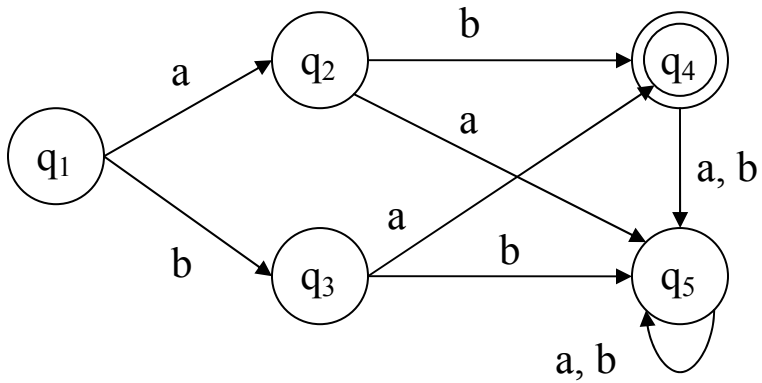
$$L = \{a, aaa, aaba, aabba, aabbba, aabbbba, \dots\} = \{a\} \cup (\{a\} \cdot \{a\} \cdot \{b\}^* \cdot \{a\})$$



$$L = \{a, ab, abb, abbb, abbbb, \dots\} = \{a\} \cdot \{b\}^*$$



$$L = \{baa, baabaa, baabaabaa, \dots\} = \{b\} \cdot \{a\} \cdot \{a\} \cdot (\{b\} \cdot \{a\} \cdot \{a\})^*$$



$$L = \{ab, ba\} = (\{a\} \cdot \{b\}) \cup (\{b\} \cdot \{a\})$$