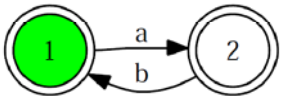
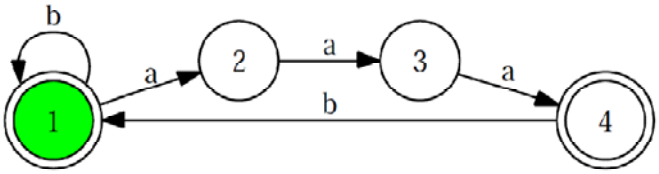
CS 311: Theory and Implementation of Programming Languages
Assignment 2.5 (A Tutorial)

Example 1: Let the alphabet set be {a, b}, design a FMS which accepts any string such that a occurs on all odd number of position in the string. The position starts from 1. Such that {ababab …}



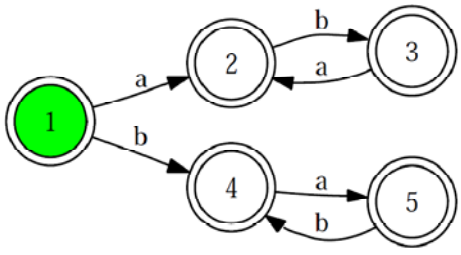
Example 2: Design a FSM to accept any string such that in the string, if a occurs, it is always in a group of three. For instance, {baaabbbbbbaaabaaabb}



Exercise 3: Design a FSM to accept any string such that in the string a always occurs in a group. The group size is between 1 to 3. For instance, {babbbbbbaabaaabb}

TRY IT ON YOUR OWN

Example 4: Design a FSM to accept any string such that in the string a and b are alternating. For example, {babab},{ababab}.



Exercise 5: Redo the Example 2 with one state less.

Exercise 6: Redo the Example 4, but only use three states.

Exercise 5: Design a FSM for a 3-level elevator in which in each level there is a push bottom key to call the elevator to that level. You decide on how your elevator should work.