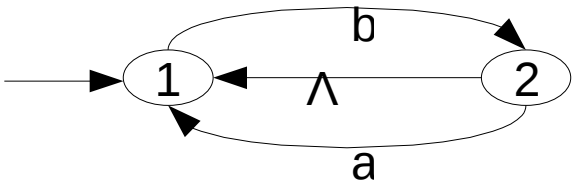
1. Write out an algorithmic procedure that will convert a TG with more than one final state into an equivalent one with exactly one final state.

2. Write a regular expression for the language accepted by the following TG, in which state 2 is the only final state.



3. Do problem 19 on page 91 of the textbook.

4. Let L be the language accepted by some TG. Define reverse(L) to be the set { w | reverse(w) is in L }. Prove that reverse(L) is also accepted by some TG.

5. Let L' denote the complement of L. In other words, L' is the set of all words over the same alphabet as L that are not in L. If we have a TG accepting L, can we transform it into a TG accepting L' by changing which states are final states? Justify your answer.