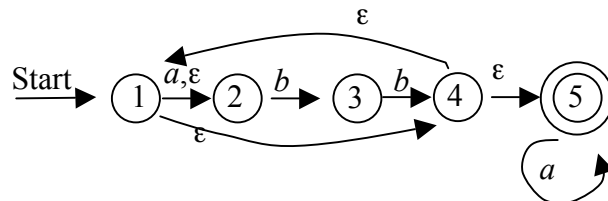


Exercises for FLL, Fall 2017, sheet 2 – Solutions

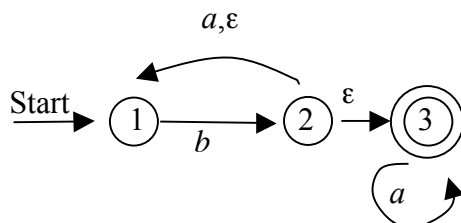
Return Thu Oct 5, in class

Exercise 1. Design an ϵ -NFA that accepts the language denoted by $((\epsilon+a)bb)^*a^*$. Represent your automaton by a transition diagram.

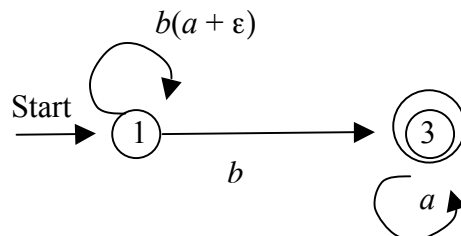
Solution. The diagram shows a possible ϵ -NFA for our language.



Exercise 2. Give a regular expression for the language accepted by the ϵ -NFA shown below. Use the procedure of state elimination described in the proof of Proposition 3.3 in the LN. Depict the interim generalized NFA that you obtain after deleting state 2.



Solution. Deletion of state 2 gives this generalized DFA:



which in turn gives the regexp $(b(a + \epsilon))^* b a^*$.