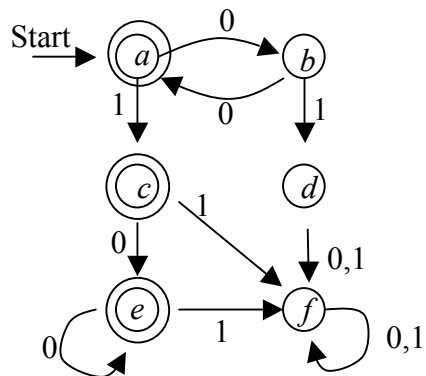


Exercises for FLL, Fall 2015, sheet 4

Return Tue Oct 6, in class

Exercise 1. Minimize the DFA shown in the figure by using the table filling method.

Deliverables: the filling table, the set of states of the minimal DFA, and a graph representation of the minimal DFA.



Exercise 2. Let L be a regular language specified by a DFA, NFA, ϵ -NFA, or regexp. Show that it is decidable whether $L = \Sigma^k$ for some $k > 0$.

Exercise 3. Give a CFG for all words over the terminal alphabet $T = \{a, b, +, *, (,), \epsilon, \emptyset\}$ that are regular expressions over $\Sigma = \{a, b\}$.