Theory of Computation

Supplementary exercises

April 12, 2016

RegExp: Exercises

Build Regular Expressions for:

1. the set of strings that contains at least one symbol *a* and one symbol *c*;
2. the set of strings which 10th symbol from right is 1;
3. the set of strings that not contains the substring 101;
4. the set of strings in which each substring *aa* is followed by substring *bb*.

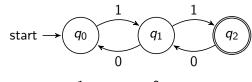For the first exercise consider the alphabet $A = \{a, b, c\}$, for the rest - the alphabet $A = \{0, 1\}$

From Regular Expression to (N)FSA: Exercises

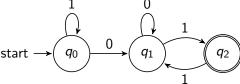Build (N)FSAs from Regular Expression:
1. $(00 \mid 1)(0 \mid 1)^*$;
2. $0(0 \mid 10)^*$;
3. $(10^* \mid 01^*) \mid \epsilon$

FSA to RegExp: Exercises

Give a regular expression that describes the language accepted by:

1.

2.