

4200 - Formal Languages: Homework #4

Due on Feb 26, 2020 at 8:00am

Instructor: Dr. Anh Nguyen

Problem 1

10 points

Convert the following regular expressions into equivalent NFAs. Draw the final NFAs using JFLAP. That is, provide JFLAP screenshots/drawings of the diagrams in your solution. Hand-drawn drawings will be NOT graded.

1. $a^* (b \cup c)^* c$
2. $((b \cup a)^* \cup (c \cup a))^* (cb)^*$

Problem 2

20 points

Convert the following NFAs into equivalent regular expressions. Show **all the intermediate steps** (i.e. GNFA) and make appropriate comments to help graders understand your steps.

For example, step 1: remove state “q0”; step 2: remove state “q3”, etc.

For this problem, it is not necessary to use JFLAP.

- a. Convert the NFA in Figure 1 into an equivalent regular expression.

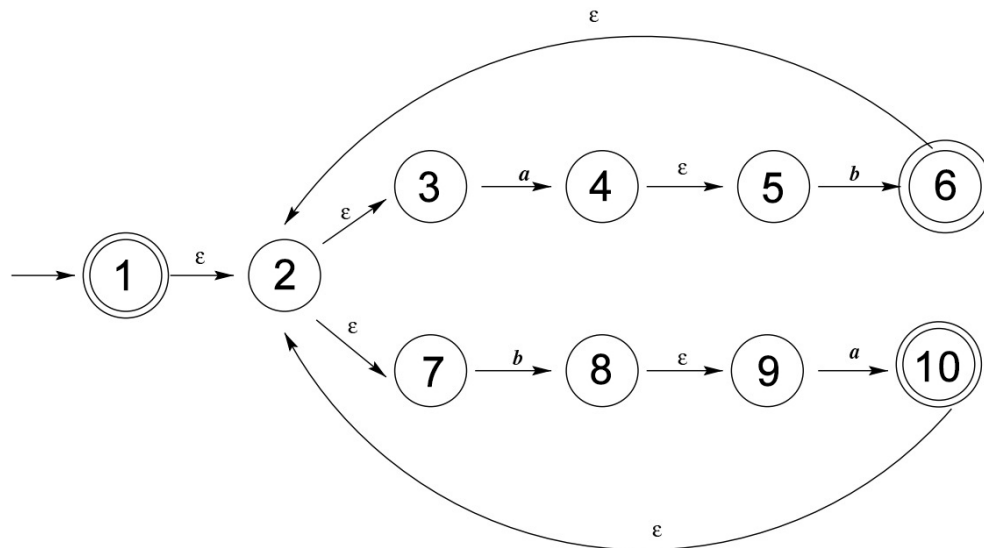


Figure 1:

b. Convert the NFA in Figure 2 into an equivalent regular expression.

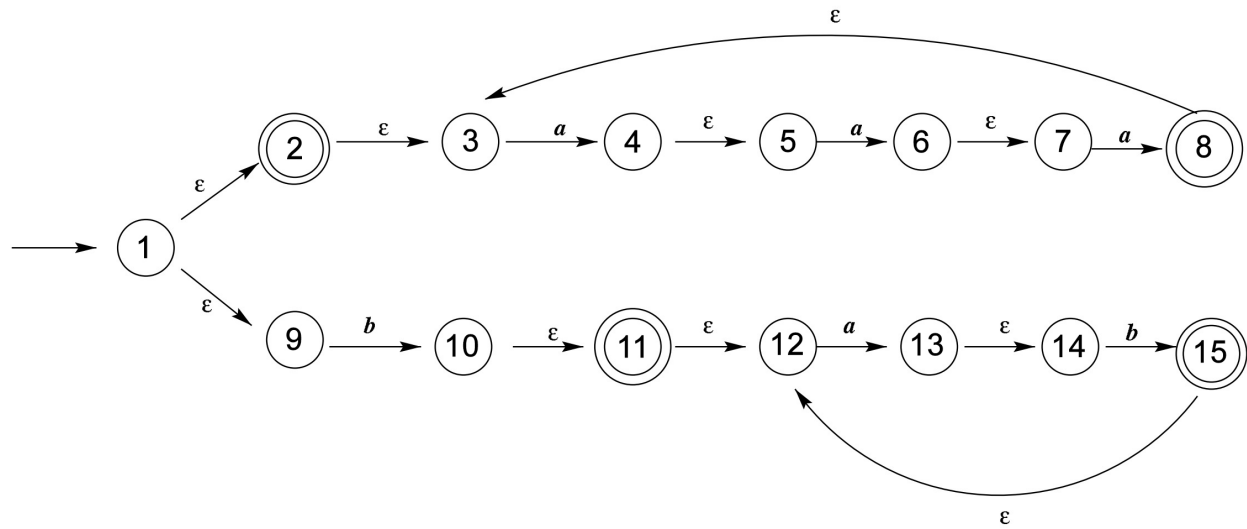


Figure 2: