

Lab 2

CMPT 432 - Spring 2023 | Dr. Labouseur

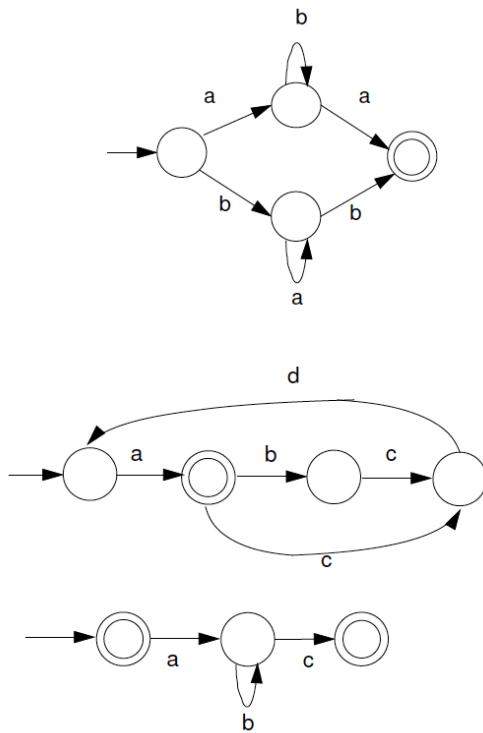
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1 CRAFTING A COMPILER

1.1 EXERCISE 3.3

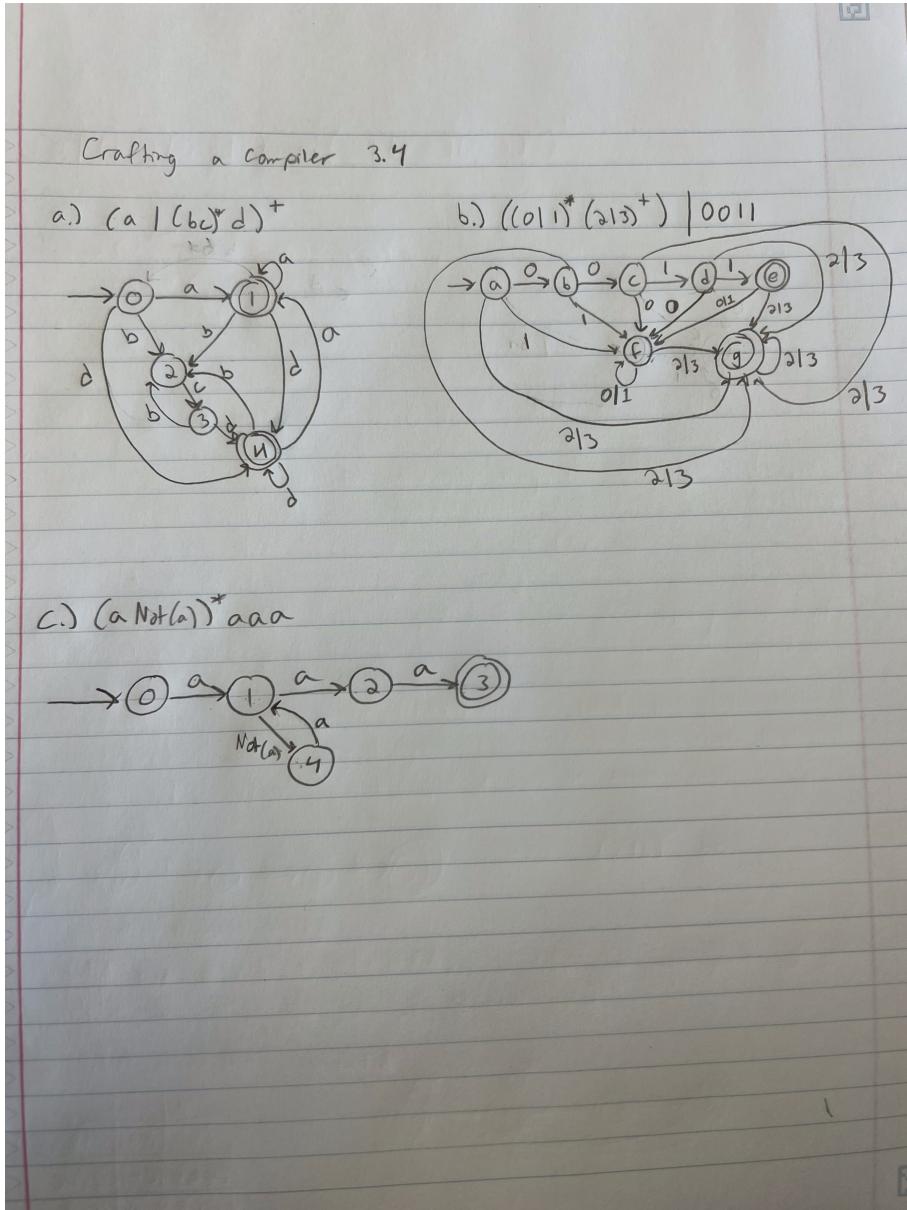
Write regular expressions that define the strings recognized by the FAs:



1. $(ab^*a)|(ba^*b)$
2. $a(b?cda)^*$
3. $(ab^*c)?$

1.2 EXERCISE 3.4

Write DFAs that recognize the tokens defined by the following regular expressions:



2 DRAGON

2.1 EXERCISE 3.3.4

Most languages are case sensitive, so keywords can be written only one way, and the regular expressions describing their lexeme is very simple. However, some languages, like SQL, are case insensitive, so a keyword can be written either in lowercase or in uppercase, or in any mixture of cases. Thus, the SQL keyword SELECT can also be written select, Select, or sElEcT, for instance. Show how to write a regular expression

for a keyword in a case insensitive language. Illustrate the idea by writing the expression for "select" in SQL.

Brute force method: (S|s)(E|e)(L|l)(E|e)(C|c)(T|t)

Easier approach: Use the i flag at the end for case insensitive match: /select/i