CMPT 432 - Spring 2022 - Compilers

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Objective: This Lab we have a few tasks to accomplish. We must reach chapter 3 in both the Crafting a Compiler book as well as reading chapter 3 in the Dragon book. We then must complete exercises 3.3 and 3.4 from the Crafting a Compilers book. We must also complete exercise 3.3.4 from the Dragon book.

1 Crafting a Compiler

This section contains the assignments from the Crafting a Compiler book

1.1 3.3

Write regular expressions that define the strings recognized by the FAs in Figure 3.33 on page 107.
1. (ab*a)$\|(ba*b)$
2.$(a)|(abcda)|(acda)$
3.(\$)$|(ab*c)$

1.2 3.4

Write DFAs that recognize the tokens defined by the following regular expressions:
(a) (a$\|(bc)*d)+$
$(b)((0|1)*(2|3)+)|0011$
$(c)(aNot(a))*aaa$

$LooktoimagefilesfortheFAs$

2 Dragon

This section contains the assignments from the Crafting a Compiler book

2.1 3.3.4 (Case insensitivity in Regular Expressions)

Most languages are case sensitive, so keywords can be written only one way, and the regular expressions describing their lexemes are 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.
Solution: [sS][eE][lL][eE][cC][tT]