

Concepts of Programming Languages, CSCI 305, Fall 2021
Translation of Regular Expressions to a DFA, Sept. 8
Section 2.2.1 Generating a Finite Automaton, 56-61

Example from text, starts on page 54.

Regular expressions for a simple calculator language

assign \rightarrow :=

plus \rightarrow +

minus \rightarrow -

times \rightarrow *

div \rightarrow /

lparen \rightarrow (

rparen \rightarrow)

id \rightarrow letter (letter | digit)*

number \rightarrow digit digit* | digit* (. digit | digit .) digit*

Sample “programs” in this language:

x1 := x1 * (29.3+x2)

Consider a portion of the definition for number:

number \rightarrow digit* (. digit | digit .) digit*

1. Convert this regular expression into an NFA

2. Convert the NFA to a DFA