Nicholas Carmello
Professor Labouseur
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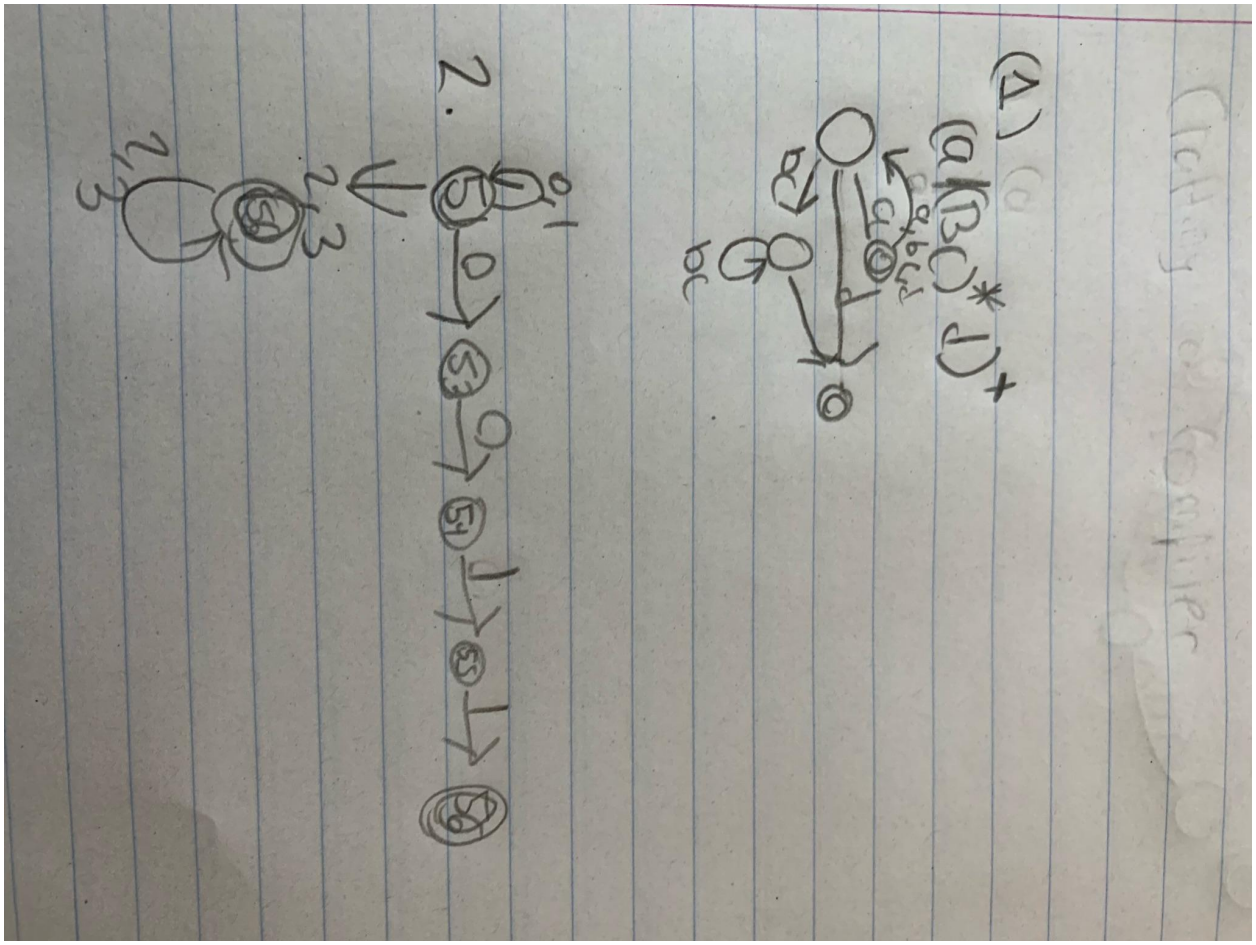
Lab02

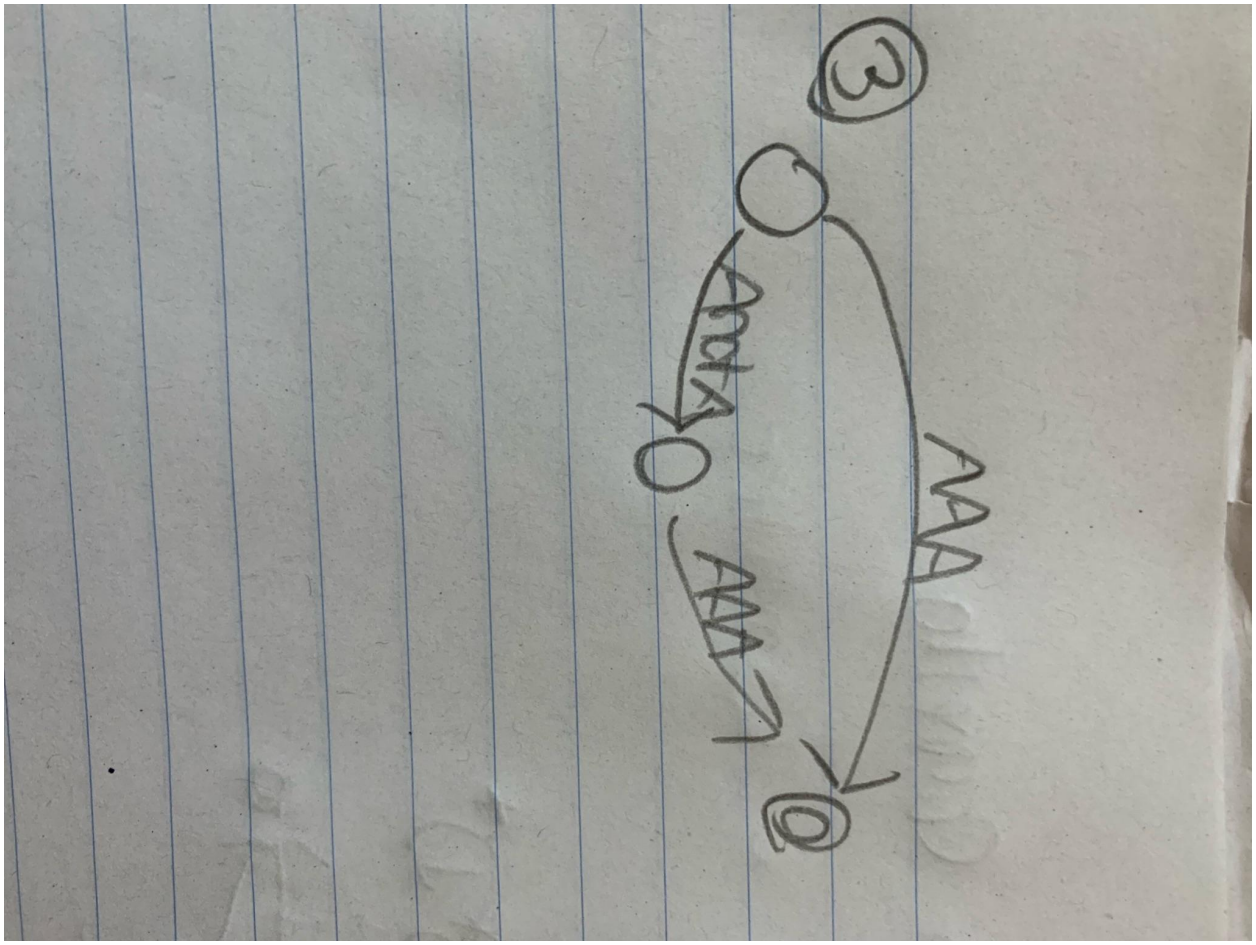
1. Write regular expressions that define the strings recognized by the FAs in figure 3.33 on page 107.

a. ((a)(b)+(a)) | (b)(a+)(b)
b. ((a)|(abc) | (acd))+
c. (a)|(a)(b+)(c)

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



(c) (a Not(a))*aaa



3.

Most languages are case sensitive, so keywords can be writtenonly one way, and the regular expressions describing their lexemes are verysimple. However, some languages, like SQL, are case insensitive, so a keywordcan 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 caseinsensitive language. Illustrate the idea by writing the expression for \select"in SQL.

Answer: ^(S|s)(e|E)(l|L)(e|E)(t|T)$