Dragon:

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.

(s|S|e|E|l|L|e|E|c|C|t|T) This should work because it will be able to check for either upper case or lower case of the characters that are needed to make the select statement. Another version could be that you have every possibility that is out there, so [a-bA-B].*, this will account for every possibility.

Crafting a Compiler

3.3:

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

1) (a*a|b*b)

2) (a|abcd*|acd*)

3) (ab*c)?

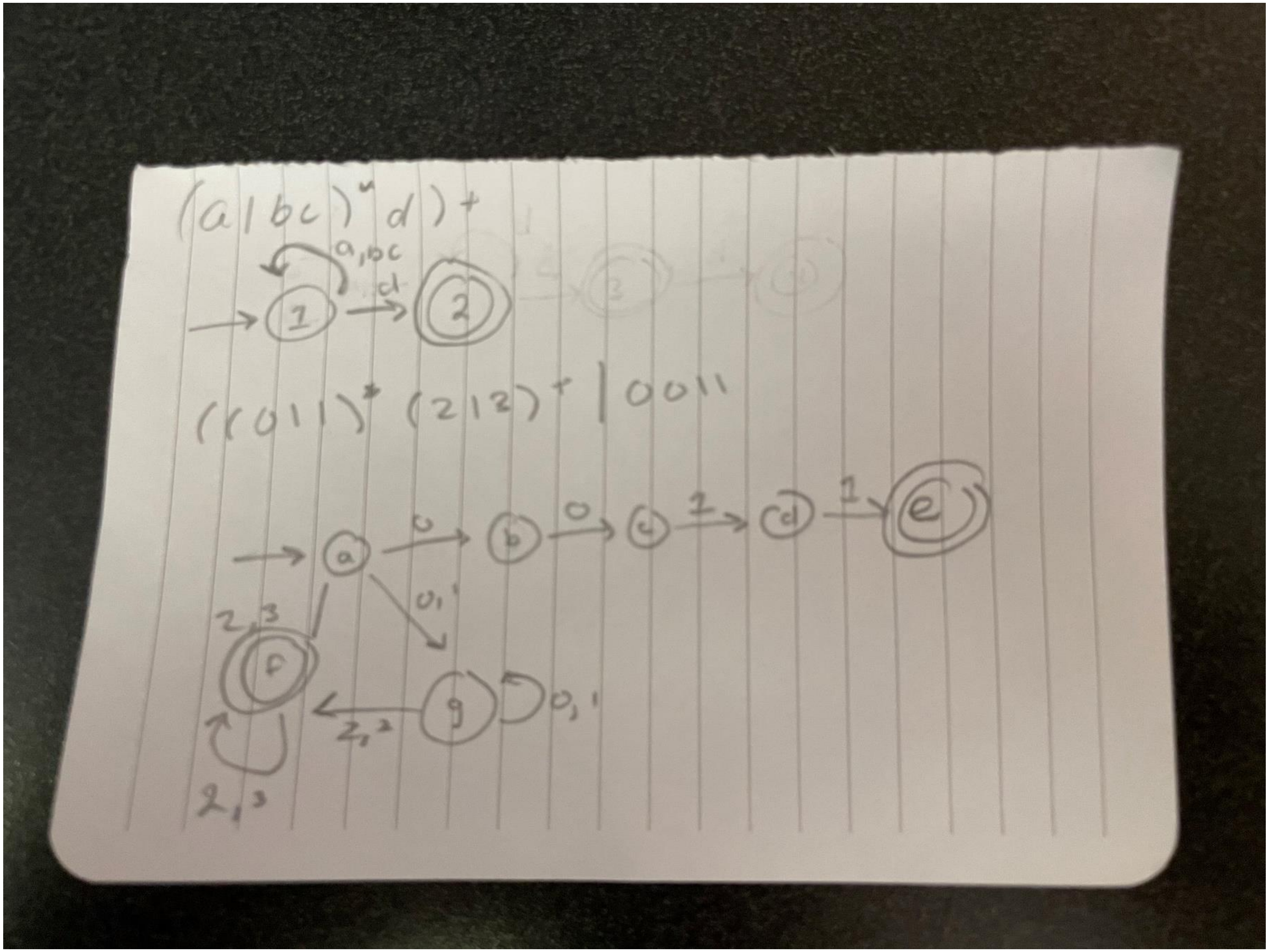
3.4

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

(a | (bc)*d)+

((0 | 1)*(2 | 3)+) | 0011

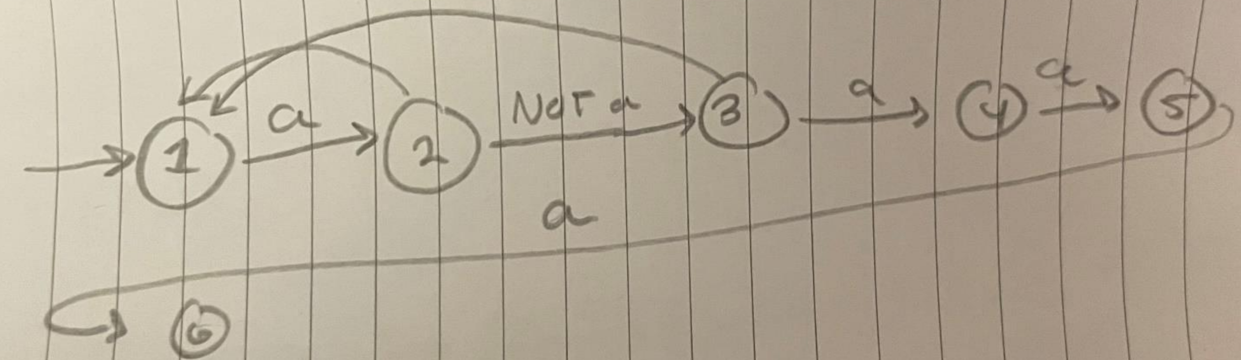
(a Not(a))*aaa



(a|bc)* d)+

((0|1)* (2|3)+ | 0011

(a|NOT(a))* aaa


1
a
2
NOT a
3
a
4
a
5
a
6