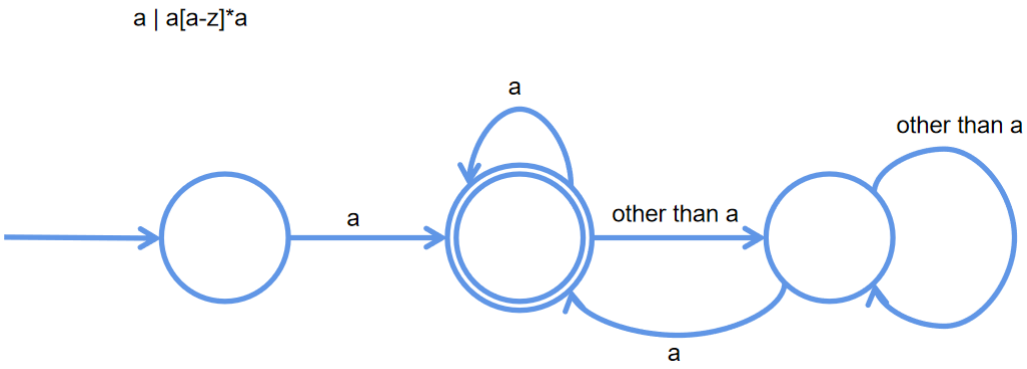
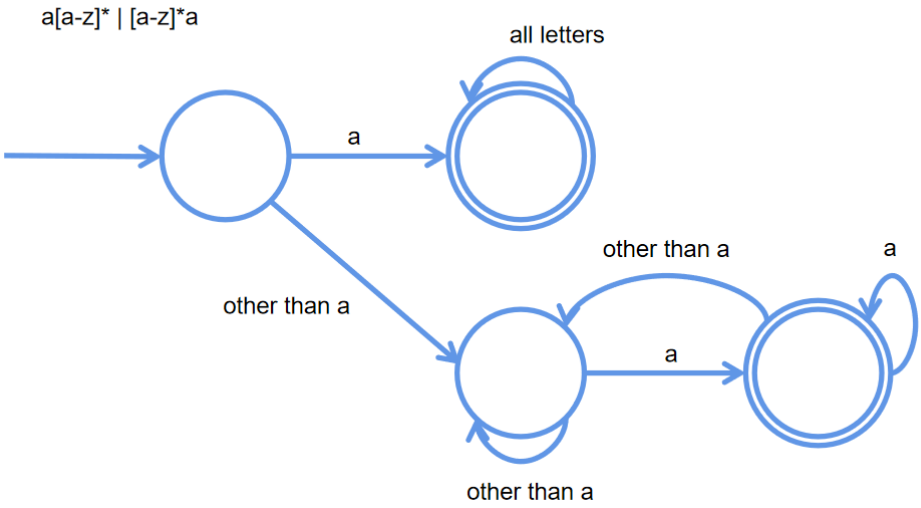
2.8 Draw DFAs for each of the sets in Exercise 2.1, or state why no DFA exists

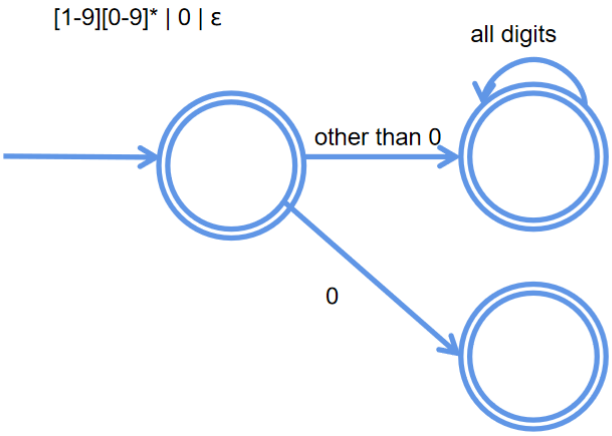
a.



b.

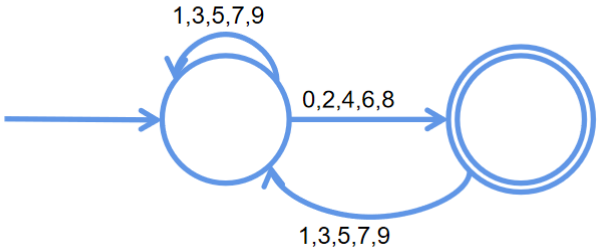


c.



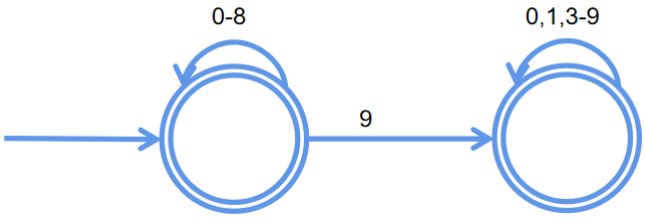
d.

[0-9]*[02468]



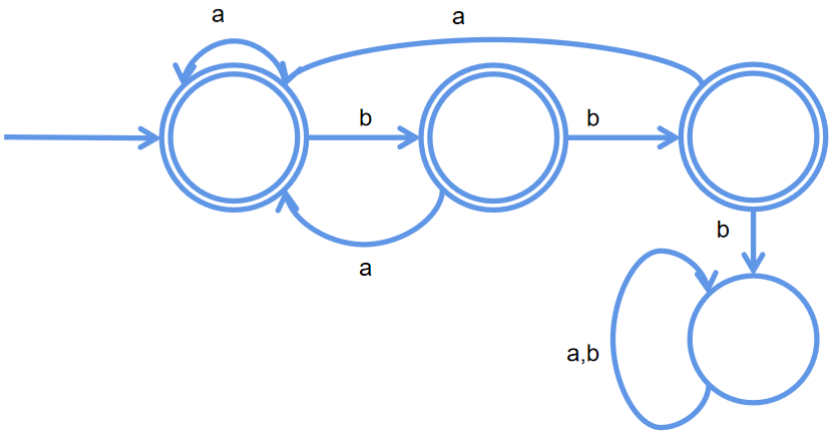
e.

[0-8]*([01] | [3-9])*



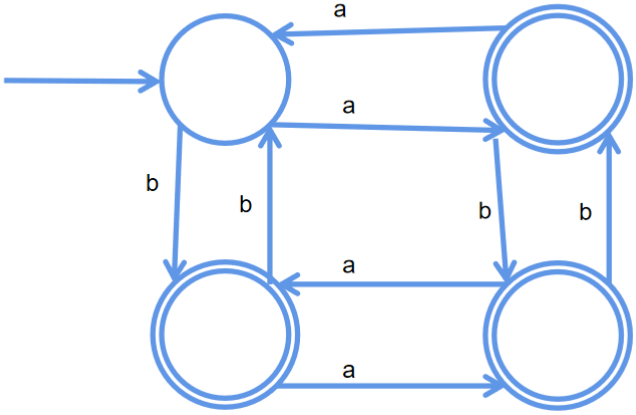
f.

(a | ba | bba)* (e | b | bb)

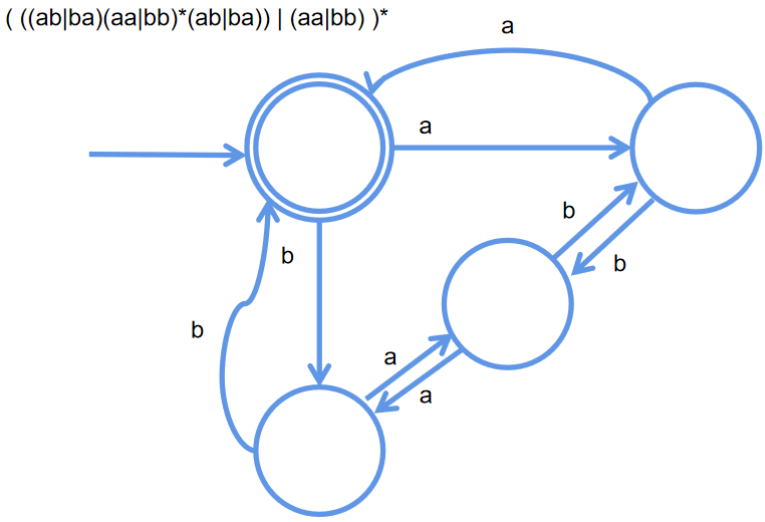


g.

b*ab*(ab*ab*)* | a*ba*(ba*ba*)*



h.

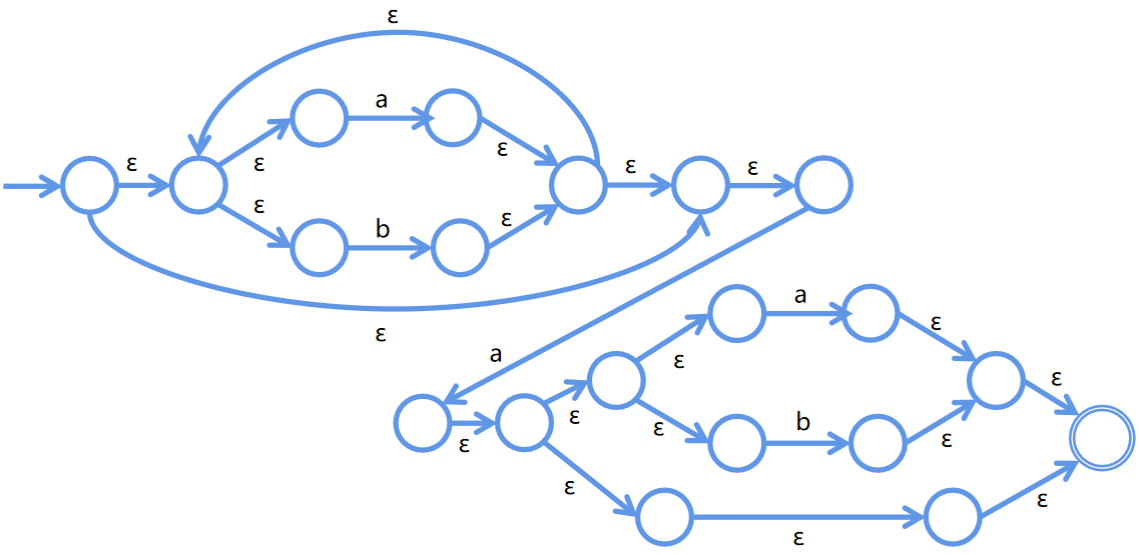


i.

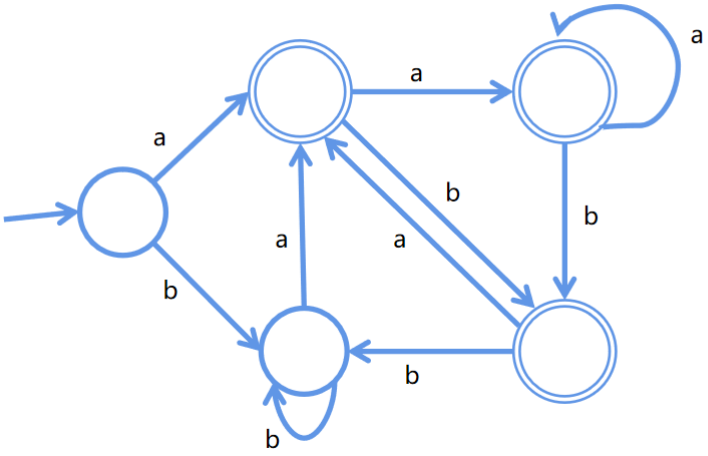
The DFA does not exist since the set is not regular.

2.12

a. Use Thompson's construction to convert the regular expression (a|b)*a(a|b|e) into an NFA



b. Convert the NFA of part(a) into a DFA using the subset construction.


a
a
a
b
b
a
a
b
b
b