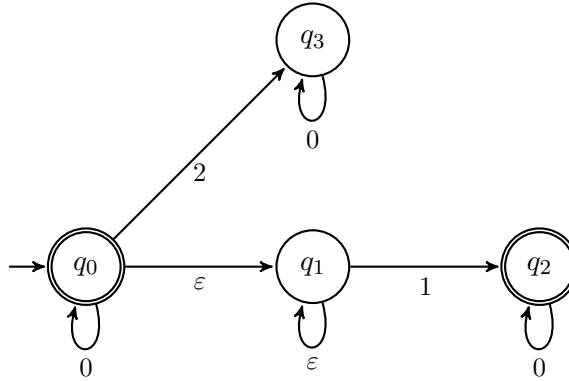# CSE 311: Foundations of Computing I

Section 9: Minimization, NFAs, Subset Construction

1. NFAs

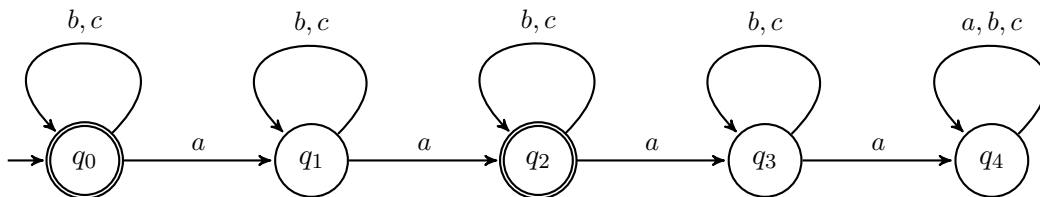(a) What language does the following NFA accept?

(b) Create an NFA for the language "all binary strings that have a 1 as one of the last three digits".

2. DFAs & Minimization

(a) Convert the NFA from 1a to a DFA, then minimize it.

(b) Minimize the following DFA:

3. RegExp to NFA

Use our generic construction to build an NFA that recognizes the language given by the following regular expression: $((0 \cup 1)1)^*001$. If you have time, also give as small an NFA as you can. (Unlike with DFAs there is no good minimization algorithm known for NFAs.)