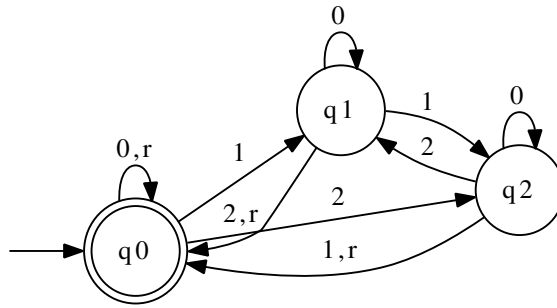


3. Use the textbook's method to find a regular expression equivalent to the following FSA:



4. For each part below, determine if the given grammar generates the string. If so, provide a leftmost derivation. If not, justify your answer.

(a) $bc b$

$A \rightarrow Bb \mid cC \mid CBA \mid a$

(b) $bc bcb a$

$B \rightarrow BCC \mid b$

(c) $bbcbcb b$

$C \rightarrow BBC \mid cb$

5. Prove or disprove (separately): $L = \{a^i c^j b^{2i} \mid i, j \geq 0\}$ is

(a) context-free.

(b) regular.