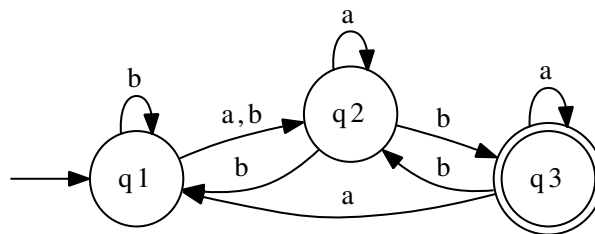


**Today** Synthesis and review.

**Next class** Synthesis and review.

**Reminders** Newsgroup. Final exam.

1. List the members of your group below. Underline your name.
  
2. Generate a regular expression that is equivalent to the following finite-state automaton. *Show enough intermediate results and include brief explanations* to make it clear that the method described in the textbook is being followed.



[additional space for answering the earlier question]

3. Convert the following grammar to Chomsky normal form. Upper-case letters denote variables and lower-case letters denote terminals. *Show enough intermediate results and include brief explanations* to make it clear that the method described in the textbook is being followed.

$$\begin{aligned} S &\rightarrow AaB \mid BbA \mid aSa \mid bSSb \\ A &\rightarrow ab \mid aaA \mid \epsilon \\ B &\rightarrow b \mid Sb \mid \epsilon \end{aligned}$$

[additional space for answering the earlier question]

4. Using the tabular representation used in class, depict the operation of the CYK algorithm on the input string aabaabaaaa and the final (Chomsky normal form) grammar of Question 3.