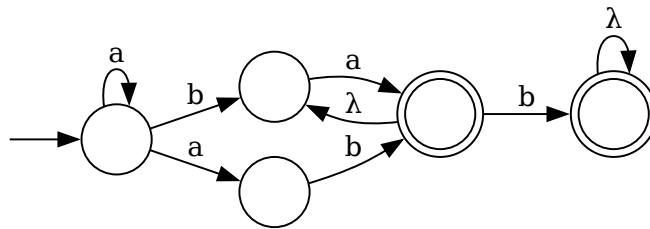


**All students** should read §3.8 to §3.8.3 of the textbook for guidance in these questions and as preparation for the next lecture.

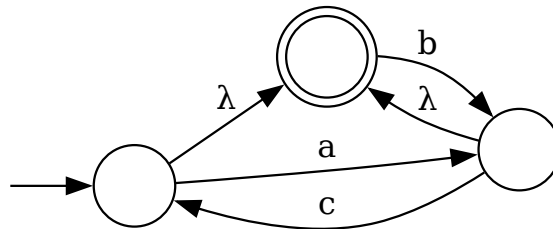
Distribute the following questions across the members of your group. You will share your solutions (and most importantly the *method* of your solutions) during the next lecture period. Divide up the questions so that **each** question has at least two solutions from different group members.

Use the book's notation for regular expressions (where regular expressions are needed). When writing NFAs don't worry about size or elegance — strive for an NFA that is straight forward for your group to verify as correct. **This is the power of  $\lambda$ s!**

1. Write an NFA for the regular expression  $a(bc|d*)^+$ .
2. Given the following NFA, write a regular expression generating the same regular set.



3. Write an NFA for the regular expression  $s|(t|t^2|t^3)|u|stu$ .
4. Given the following NFA, show a DFA expressing the same regular set.



5. Write an NFA for the regular expression  $(x^3|y*z*y*)^+$ .