

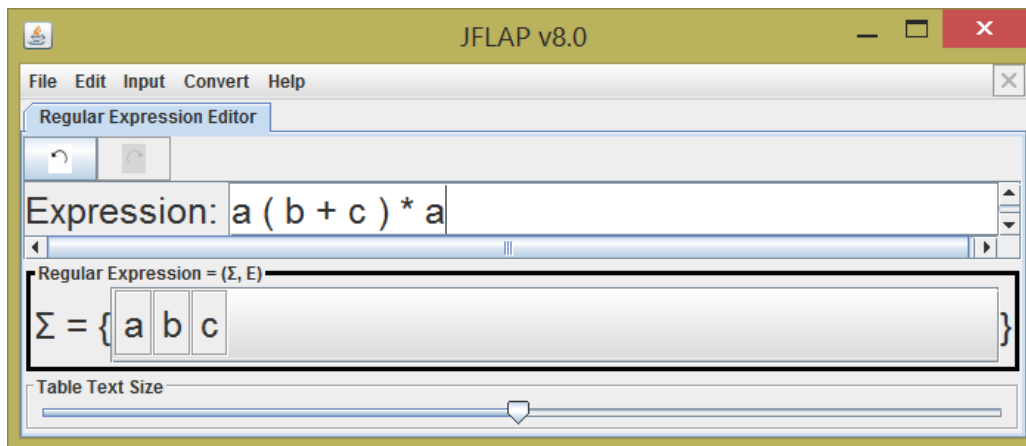
## Convert Regular Expression to DFA - Exercise

*Problem:*

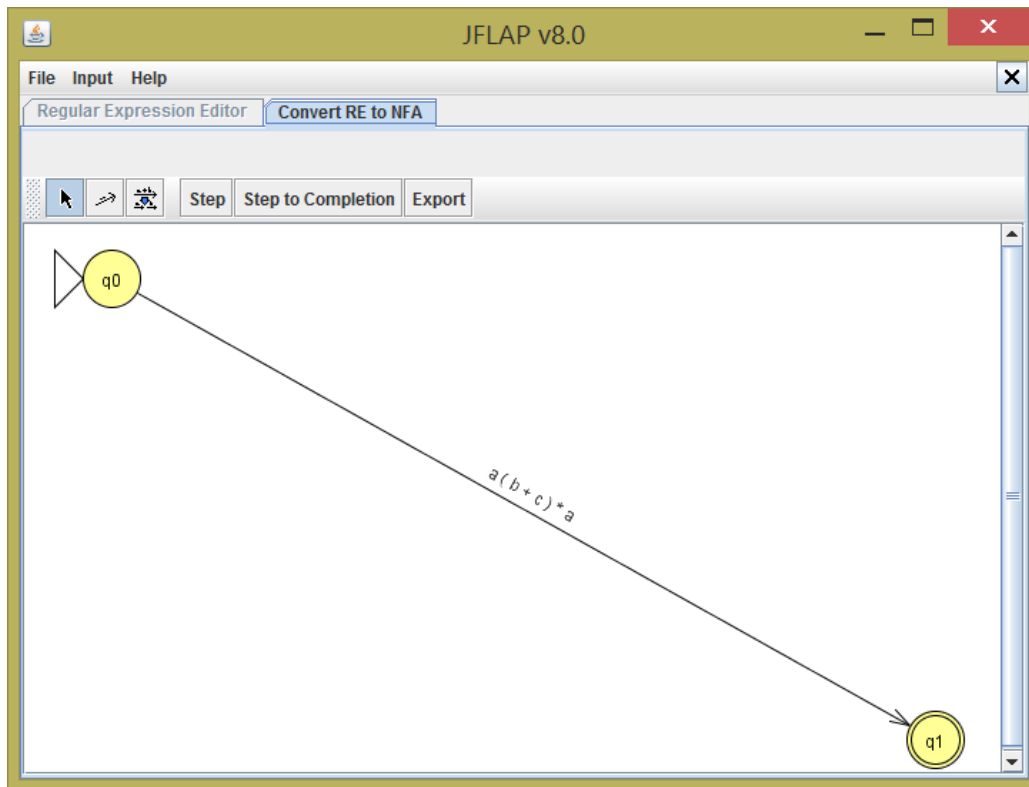
Convert  $a(b+c)^*a$  to a DFA. The string must start with an a which is followed by a mix of b's and c's repeated in any order.

*Solution:*

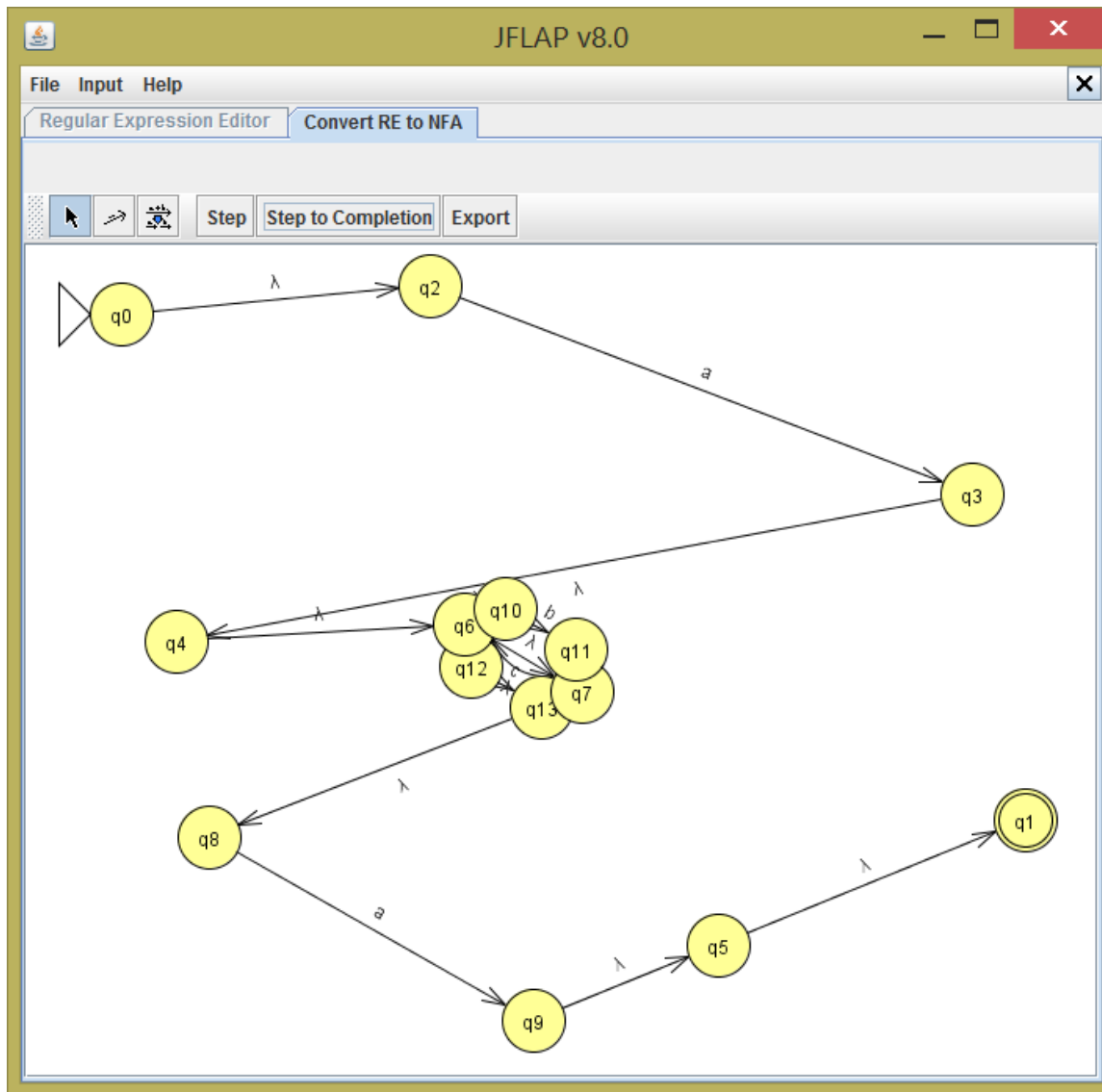
Load JFLAP and create a new regular expression. Enter the given regular expression into the text box.



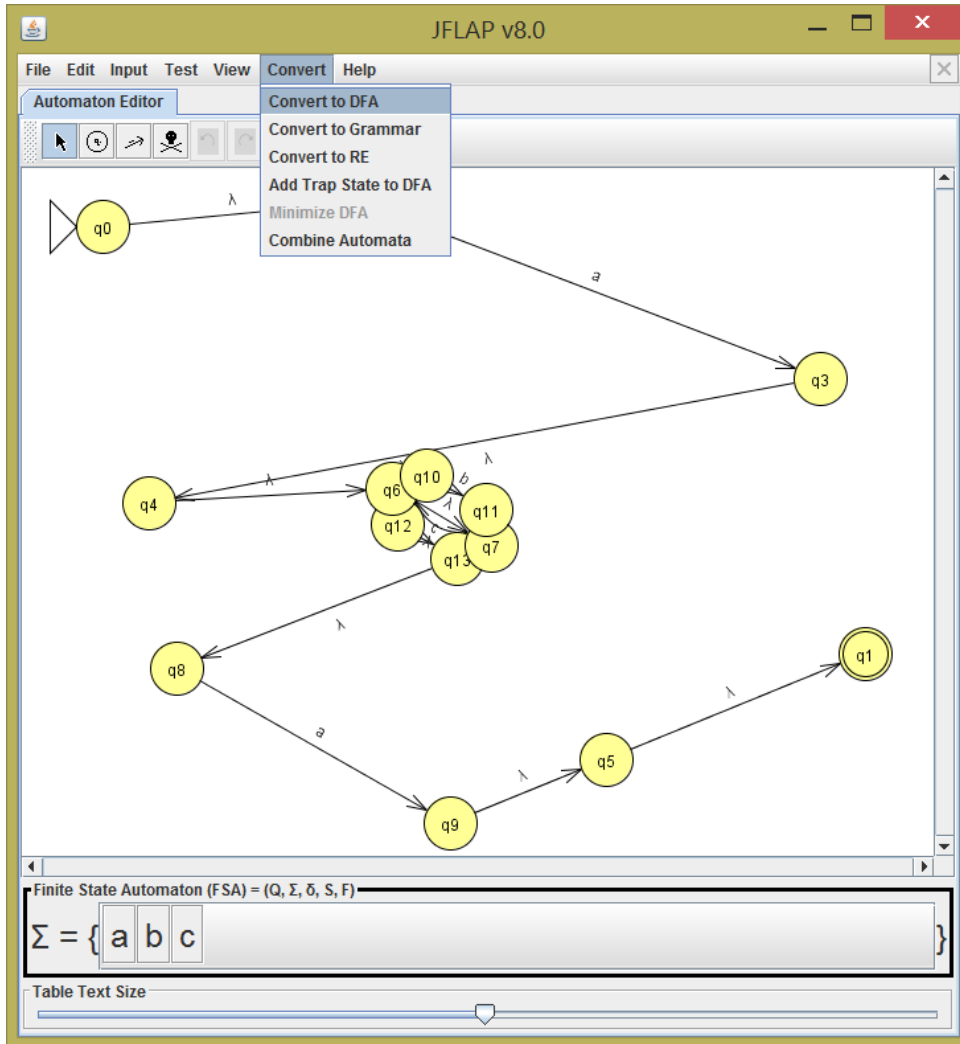
Next, convert the regular expression to a finite automata using *Convert > RE to FA*. The window changes into an FA with the regular expression labeled in the transition.



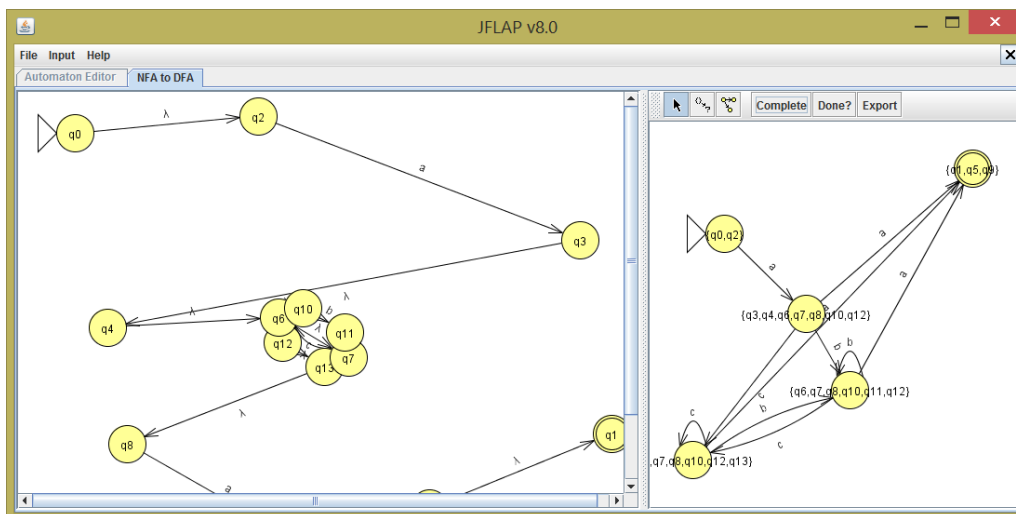
Next, click on *Step to Completion*.



Click on *Export*. The FA is now exported to an NFA. The last step is to convert it to a DFA. Click on *Convert < Convert to DFA*.



When a double framed window shows, click *Complete* on the right hand pane.



The DFA appears on the right hand side. To export this to its own work area, click *Export*. Click *OK* on the pop-up to confirm the export. Adjust the states as necessary so that edge labels are clear.

