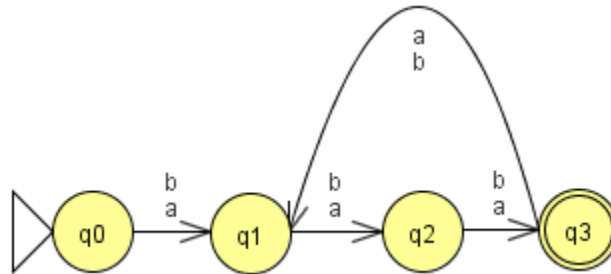


## Convert DFA to RE – Exercise

*Problem:*

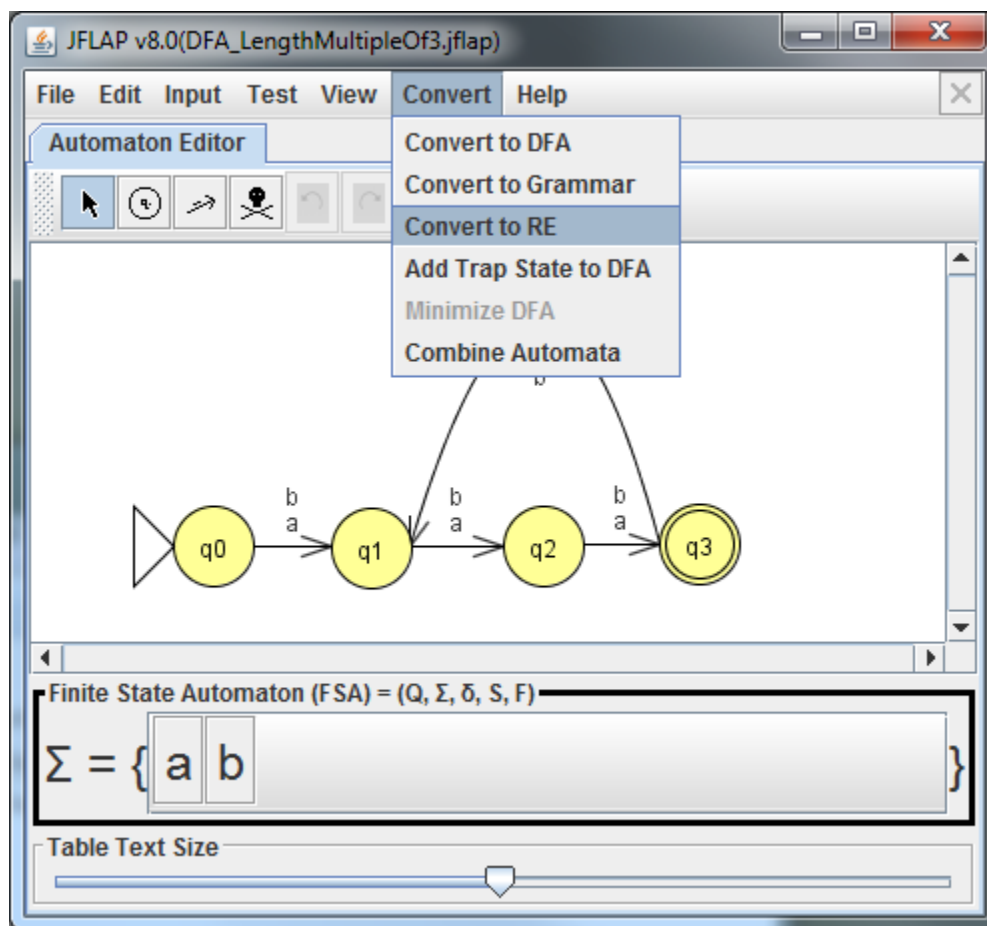
Consider an accepter which accepts words with lengths that are multiples of three over the alphabet {a, b}. Furthermore, there has to be at least three symbols in the word.

A DFA is given below. Convert this to a regular expression using JFLAP.

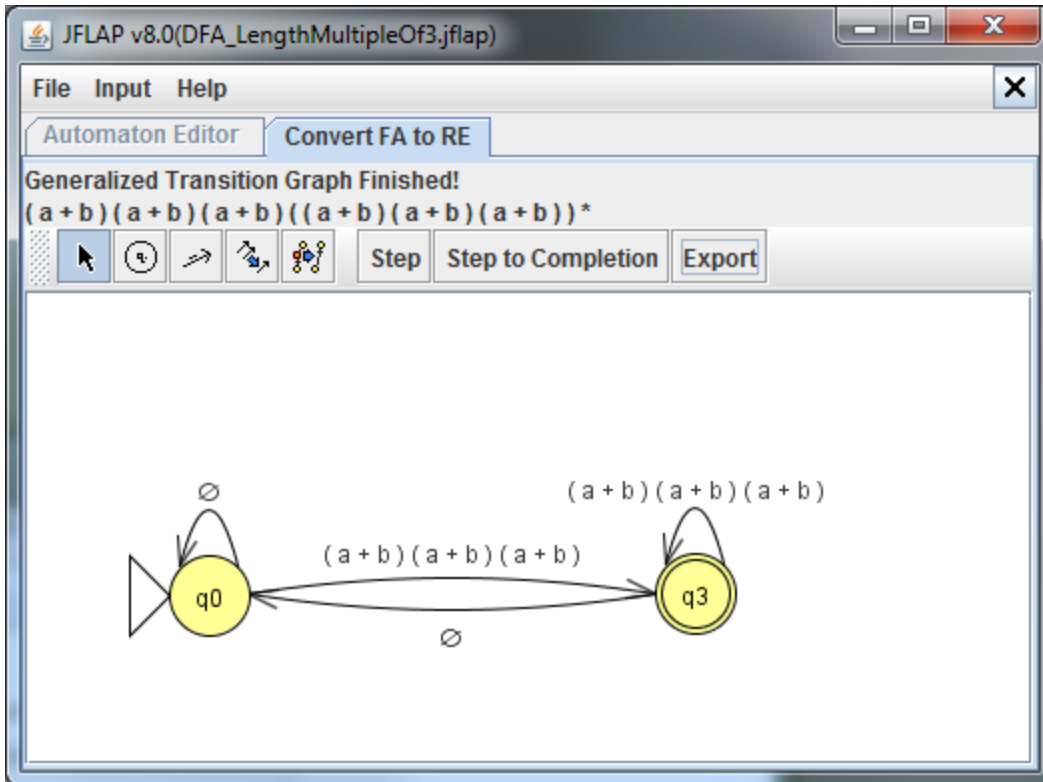


*Solution:*

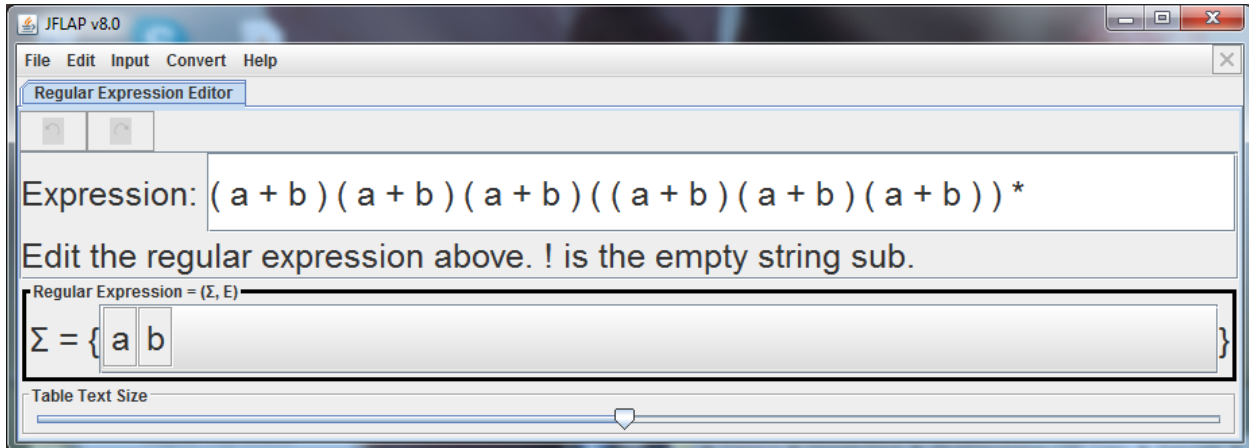
Open the file *DFA\_LengthMultipleOf3.jflap* or create the DFA in JFLAP similar to the one given. Select *Convert > Convert to RE* like so:



On the resulting window, click *Step to Completion* which should give a window like this:



Click *Export* to place the resulting regular expression in its own JFLAP window.



This may now be saved as its own JFLAP file containing the regular expression.

The resulting regular expression is  $(a+b)(a+b)(a+b)((a+b)(a+b)(a+b))^*$  as shown above.