Computer Science CSC 238H — Wednesday July 29 1998
St. George Campus — University of Toronto

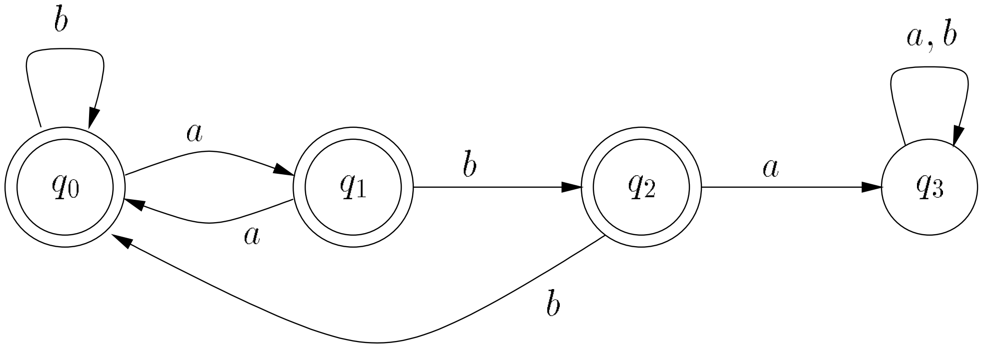
Quiz #8

First Name: ______________________

Last Name: ______________________

Student Number: ________________

1. [1 mark] Consider the following (deterministic) finite automaton. The input alphabet is $\{a, b\}$. Let δ be its transition function, and let δ^* be the extended transition function described in class last week. Let L be the language accepted by the automaton.



(a) What is $\delta^*(q_1, abba)$?

(b) What is $\delta^*(q_2, \lambda)$?

(c) Is the string $baab$ accepted by the automaton?

(d) Is the string $abbababba$ accepted by the automaton?

(e) Is the empty string in the language L?

(f) Is L finite?

(g) Is it true that any string that does not contain a b is in L?