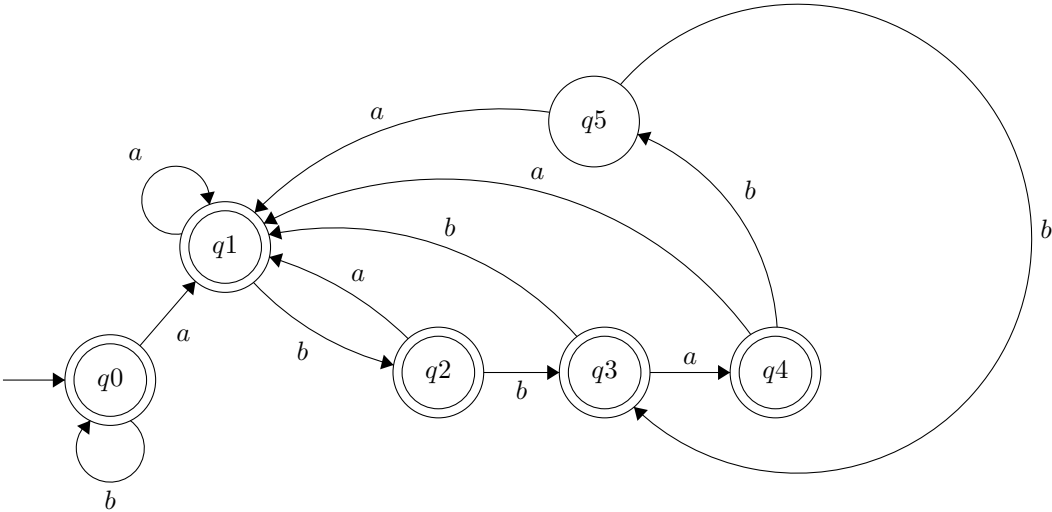


CS 321, Assignment 1

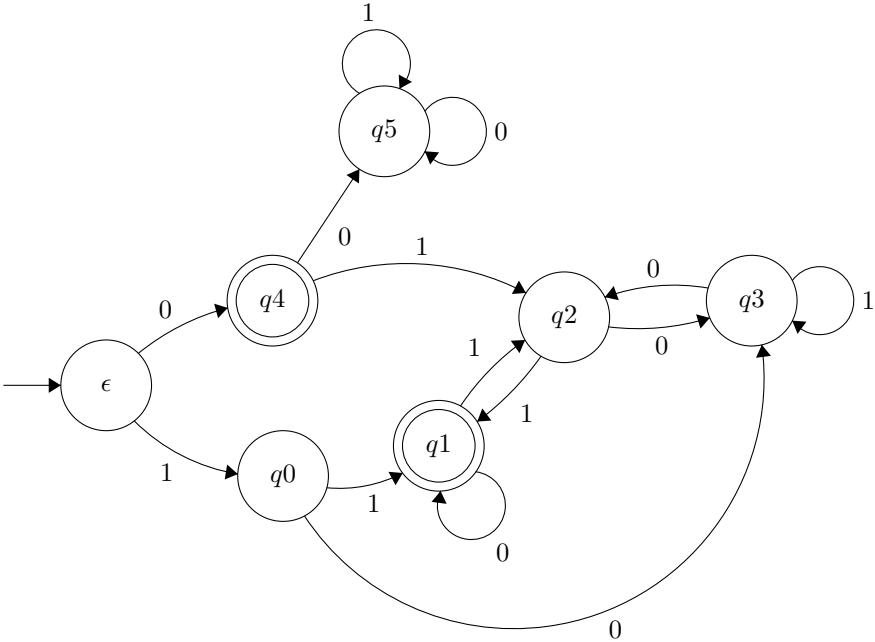
Cody Malick
malickc@oregonstate.edu

September 30, 2016

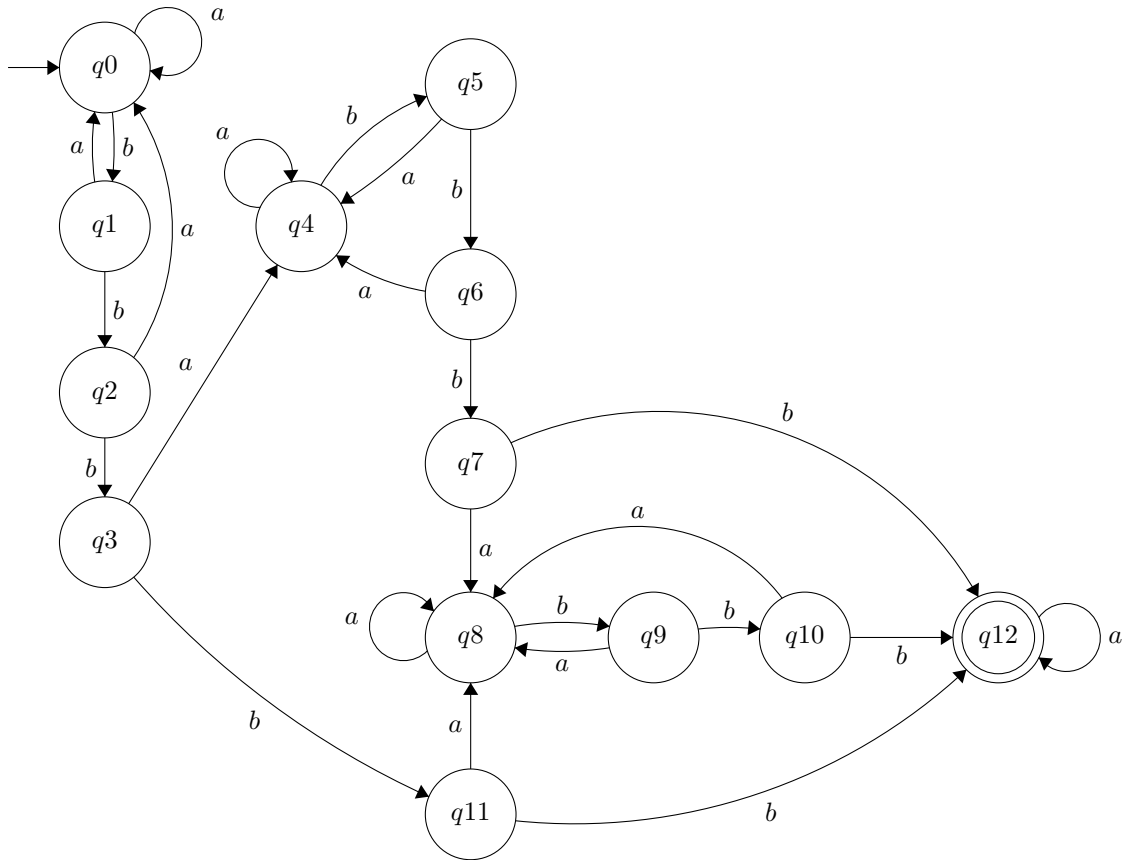
1



2

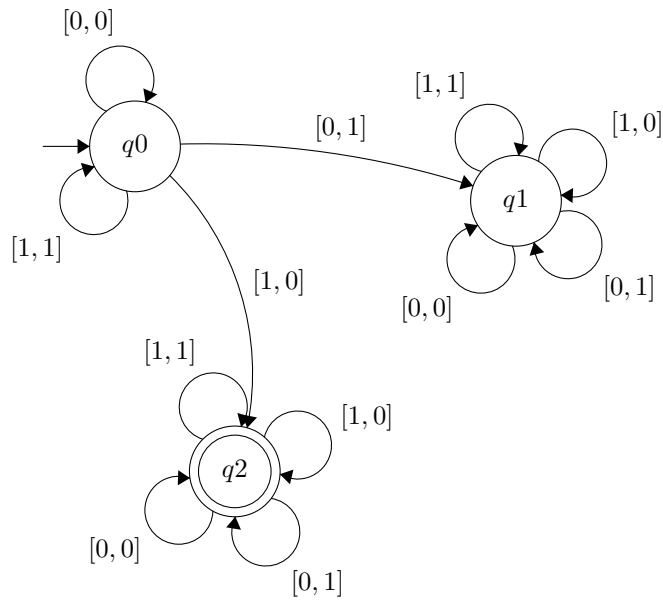


3



4

Note: The format of the nation in this diagram is [top row, bottom row]. [1,0] would be 1 in the top row, and a 0 in the bottom.



5

Base Case: $rev(\epsilon) = \epsilon$

Inductive Step:

For the string xy where $|y| = 1$ assume:

$$rev(xy) = y rev(x)$$

Show $rev(xy) = rev(y) rev(x)$ where $|y| = n + 1$:

$$\begin{aligned} rev(xy) &= rev(yb) rev(x) \\ &= b rev(y) rev(x) \end{aligned}$$

Thus, $rev(xy) = rev(y) rev(x)$ *QED*