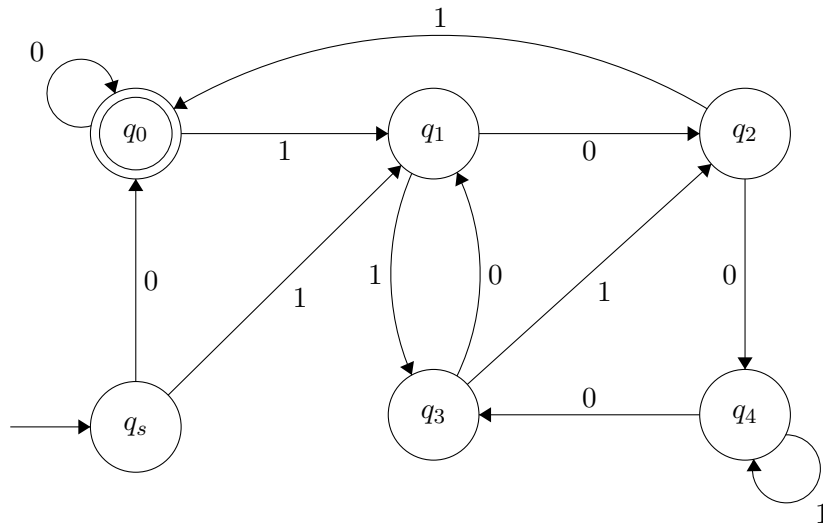# DFA Solutions

New Beginnings Summer 2018
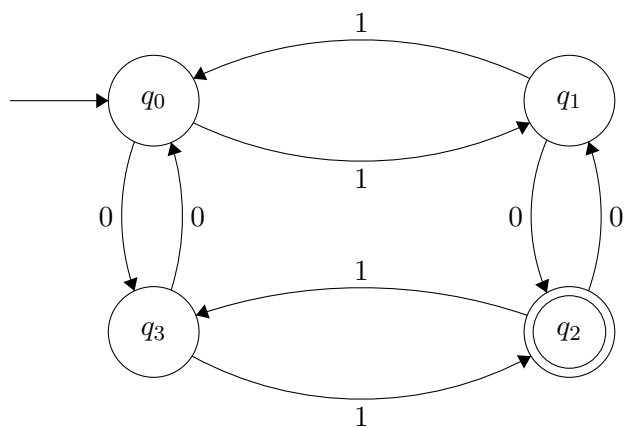
David Lu

August 28, 2018
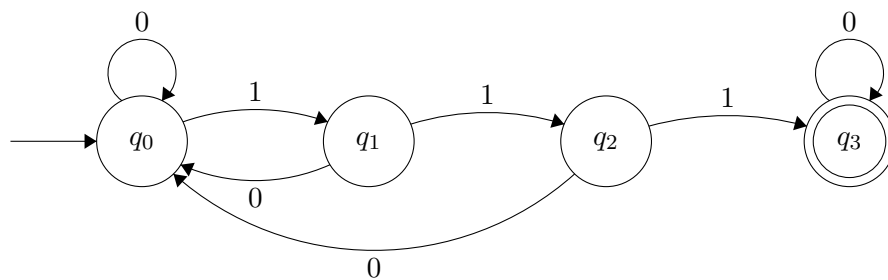
$L_1 \quad = \{s | s \text{ is a binary representation of a multiple of 5}\}, \Sigma = \{0, 1\}$
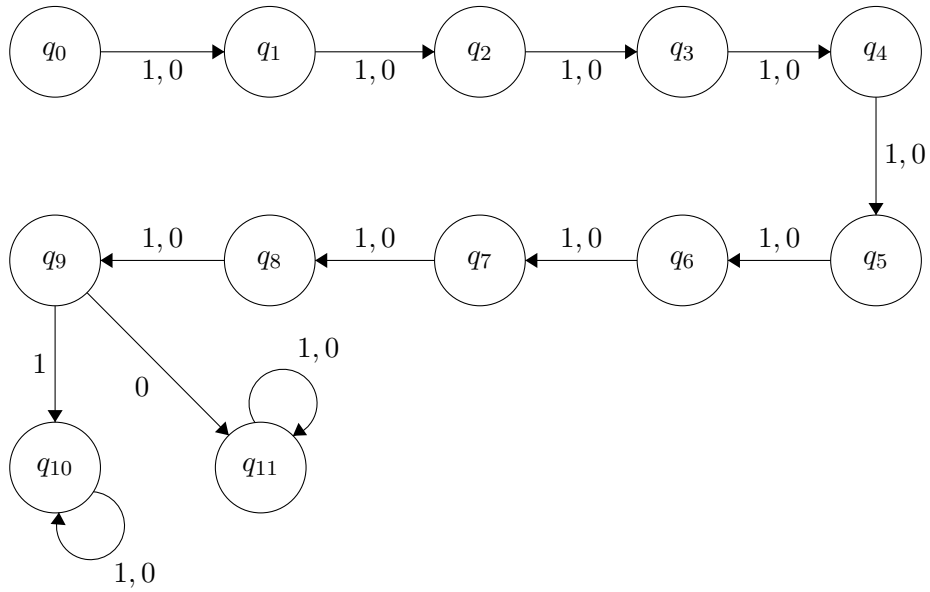
$L_2 = \{s | s$ contains an odd number of 1s and an odd number of 0s$\}$, $\Sigma = \{0, 1\}$

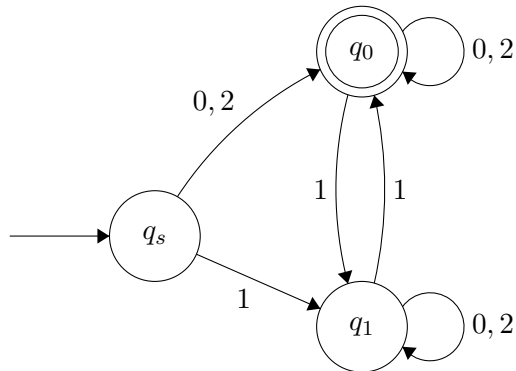$L_3 = \{s | s$ contains three consecutive 1s$\}$, $\Sigma = \{0, 1\}$

$L_4 = \{s \mid s\text{'s tenth symbol from the left end is a 1}\},\ \Sigma = \{0, 1\}$

$L_5 = \{s \mid s\text{ is an even number represented in base 3}\},\ \Sigma = \{0, 1, 2\}$

$L_6 = \{s \mid s \text{ contains an even number of 0s or exactly three 1s}\}, \Sigma = \{0, 1\}$

q_0 q_1 q_2 q_3 q_4

1   1   1   1   1

0   0   0   0   0   0   0   0   0   0

q_5 q_6 q_7 q_8 q_9

1   1   1   1   1