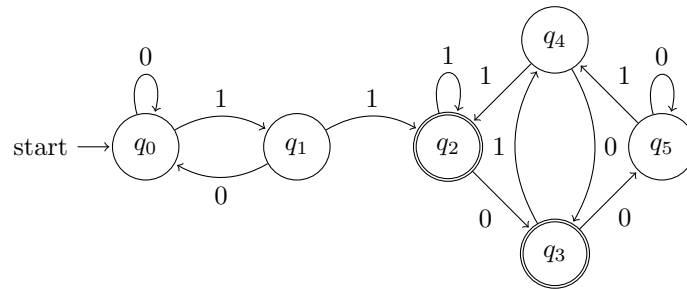# EX3

July 2020

1 DFA

1.1 a

1.2 b

$$\delta^*(q_0, x) = \begin{cases} q_0, \text{iff x is } \epsilon \text{ or (x ends with 0 and x does not contain 11)} \\ q_1, \text{iff x ends with one 1 and x does not contain 11} \\ q_2, \text{iff x ends with multiple 1's and x contains 11} \\ q_3, \text{iff x ends with 10 and x contains 11} \\ q_4, \text{iff x ends with 01 and x contains 11} \\ q_5, \text{iff x ends with 00 and x does not contain 11} \end{cases} \qquad (1)$$

Initial state: q_0
Accepting state: q_2, q_3

2 NFA