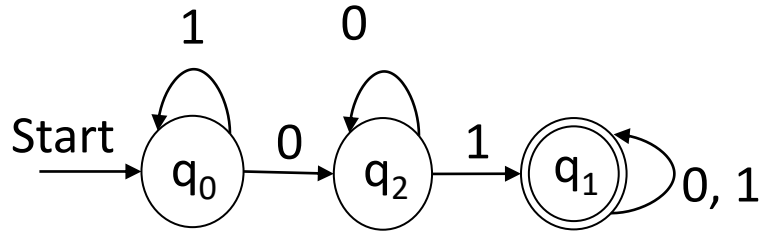


# Theory of Computation

Recognition in DFAs

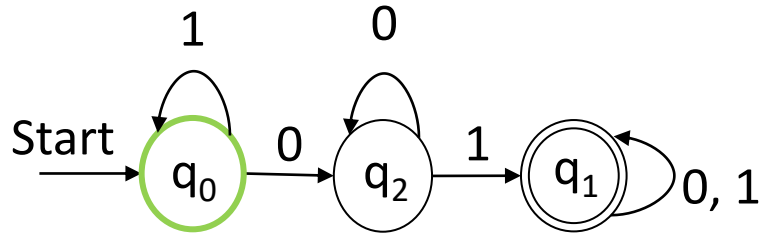
# DFA – Recognizer of the binary strings that contain the substring 01

► Input: 1011



# DFA – Recognizer of the binary strings that contain the substring 01

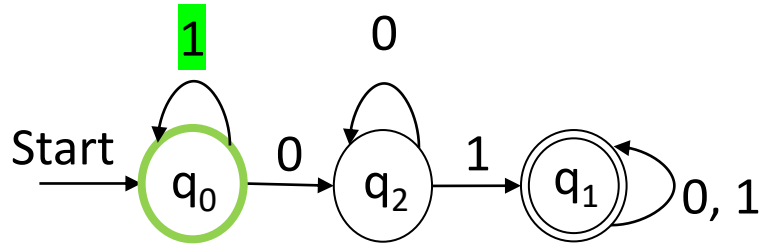
► Input: 1011



**1 0 1 1**  
↑

# DFA – Recognizer of the binary strings that contain the substring 01

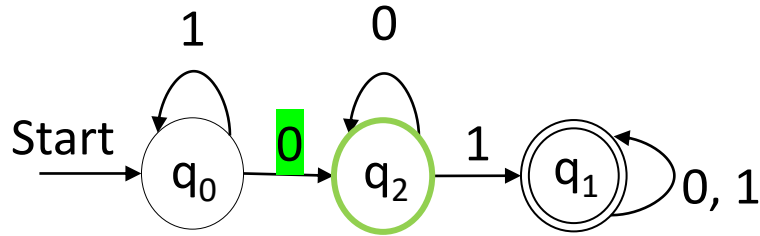
► Input: 1011



**1 0 1 1**  
↑

# DFA – Recognizer of the binary strings that contain the substring 01

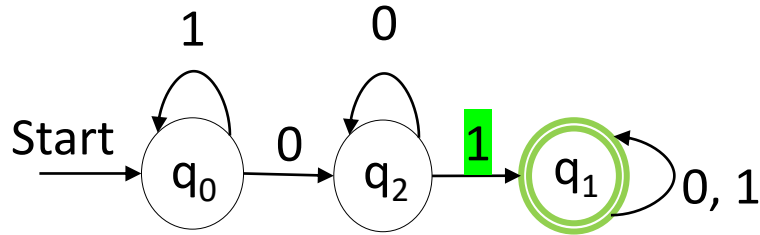
► Input: 1011



**1 0 1 1**  
    ↑

# DFA – Recognizer of the binary strings that contain the substring 01

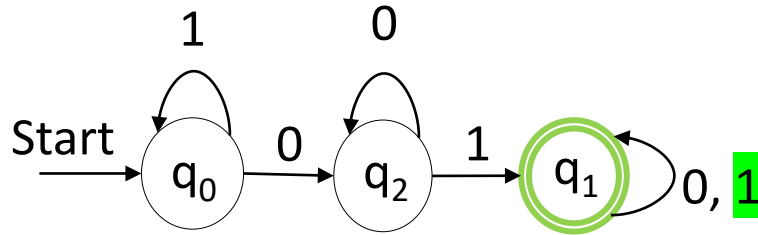
► Input: 1011



**1 0 1 1**  
          ↑

# DFA – Recognizer of the binary strings that contain the substring 01

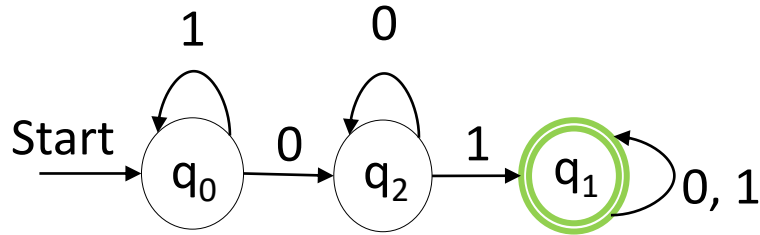
► Input: 1011



**1 0 1 1**  
          ↑

# DFA – Recognizer of the binary strings that contain the substring 01

► Input: 1011



**1 0 1 1**

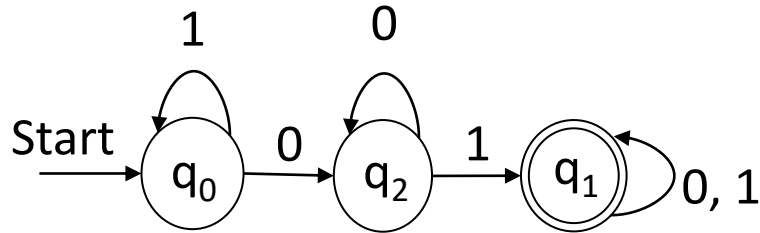


Input fully processed and DFA is in a final state  $\Rightarrow$  **ACCEPT!**



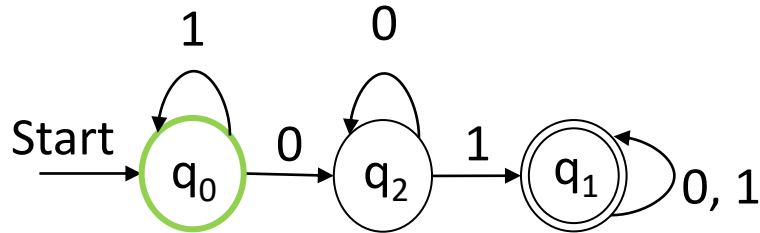
# DFA – Recognizer of the binary strings that contain the substring 01

► Input: 10



# DFA – Recognizer of the binary strings that contain the substring 01

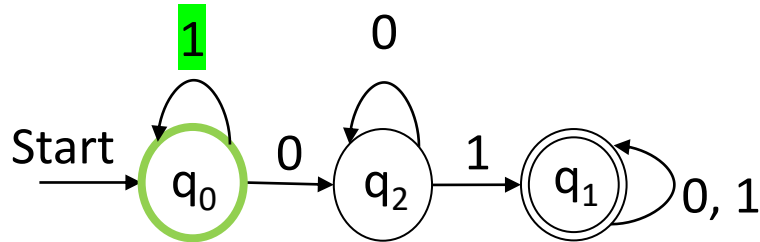
► Input: 10



**1 0**  
↑

# DFA – Recognizer of the binary strings that contain the substring 01

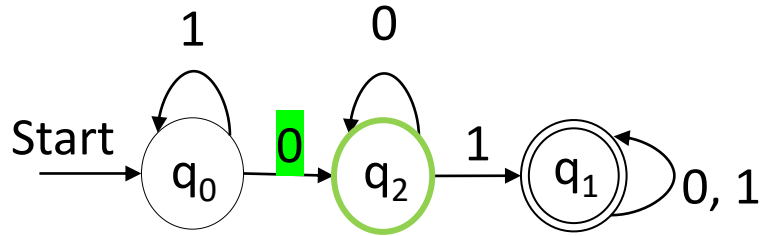
► Input: 10



**1 0**  
↑

# DFA – Recognizer of the binary strings that contain the substring 01

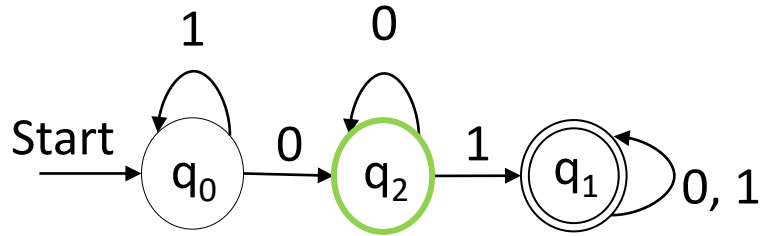
► Input: 11



**1 0**  
    ↑

# DFA – Recognizer of the binary strings that contain the substring 01

► Input: 11



**1 0**



Input fully processed and DFA is not in a final state  $\Rightarrow$  REJECT