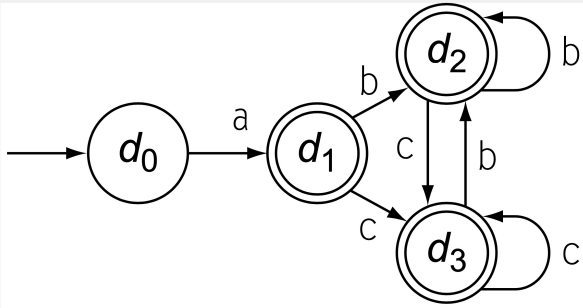
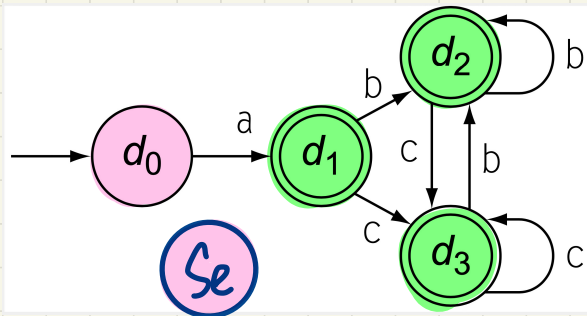


Minimizing DFA: Example (2)



Minimizing DFA: Example (2)

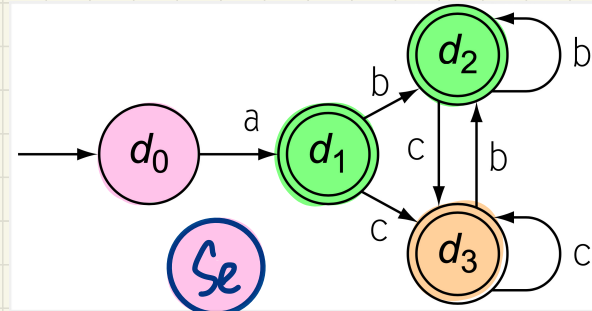


$\Sigma = \{a, b, c\}$

b :

$\{d_1, d_2\} \xrightarrow{b}$

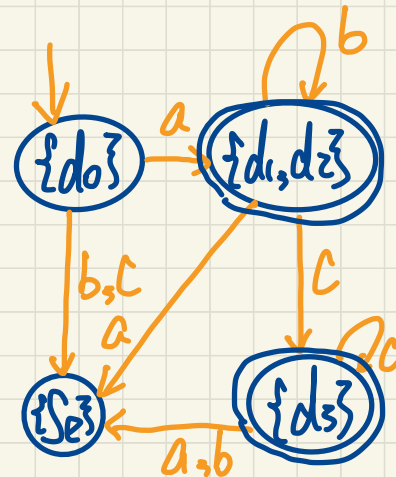
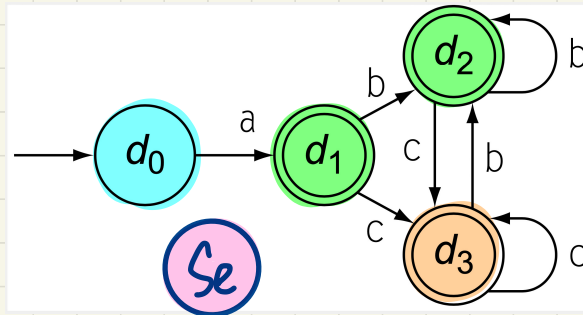
$\{d_3\} \xrightarrow{b}$



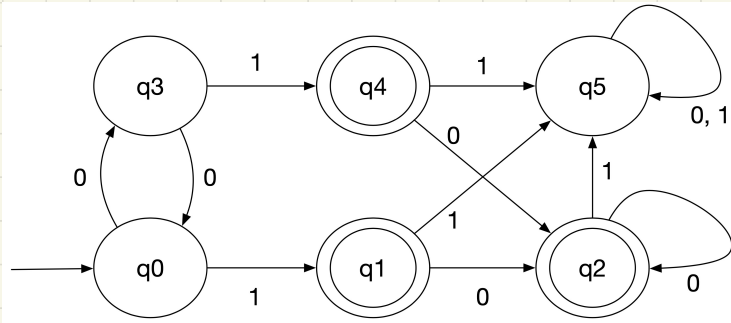
a :

$\{d_0\} \xrightarrow{a}$

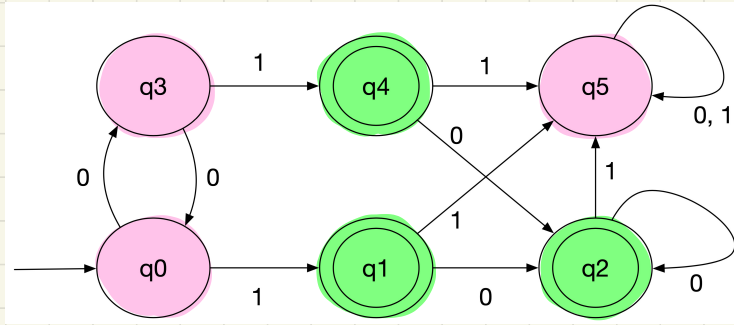
$\{S_e\} \xrightarrow{a}$



Minimizing DFA: Example (3)



Minimizing DFA: Example (3)



(1)

Initial split:

$\{ \underline{q_0, q_3, q_5}, \underline{q_1, q_2, q_4} \}$
 non-accept states accept states

(2)

Consider split $\{q_0, q_3, q_5\}$:

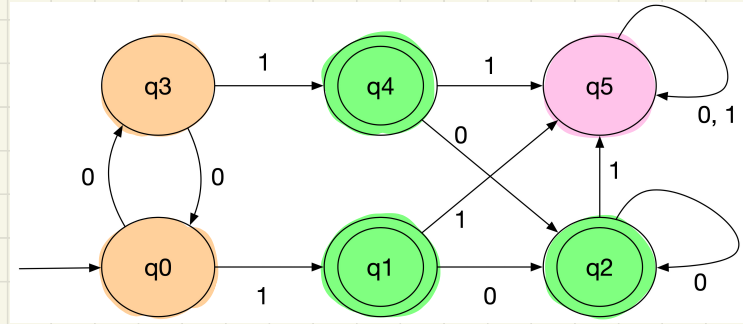
Input 0: $\{q_0, q_3, q_5\} \xrightarrow{0} \{q_3, q_0, q_5\}$

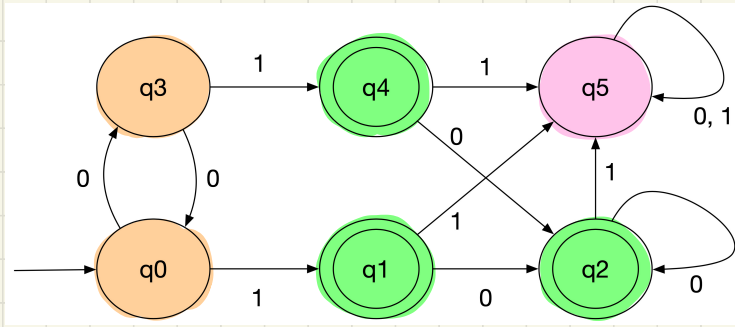
Input 1: $\{q_5\} \xrightarrow{1} \{q_5\}$

$\{q_0, q_3\} \xrightarrow{1} \{q_1, q_4\}$

same partition

split!





(5) Consider split: $\{q_1, q_2, q_4\}$
 Input 0: $\{q_1, q_2, q_4\} \xrightarrow{0} \{q_2\}$
 Input 1: $\{q_1, q_2, q_4\} \xrightarrow{1} \{q_5\}$) no split!

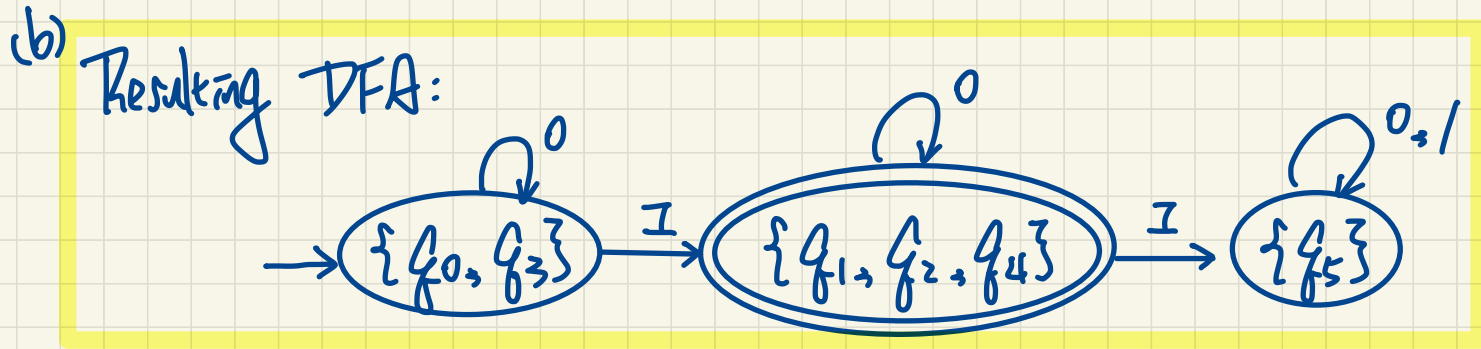
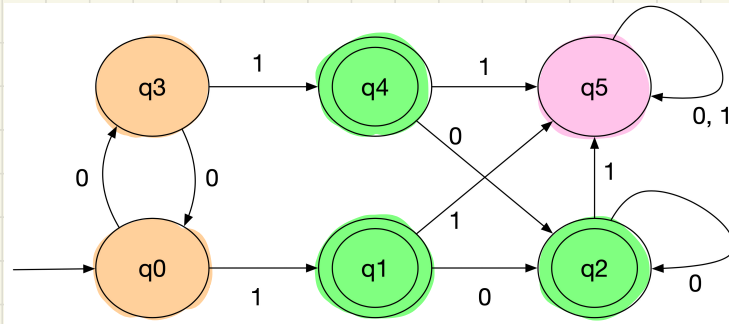
(3) Consider split: $\{q_5\}$ no split possible

(4) Consider split: $\{q_0, q_3\}$

Input 0: $\{q_0, q_3\} \xrightarrow{0} \{q_3, q_0\}$

Input 1: $\{q_0, q_3\} \xrightarrow{1} \{q_1, q_4\}$) no split!
 (same partition, same partition)

$\therefore$ no more splits can be done.



% of state reduction: 50%