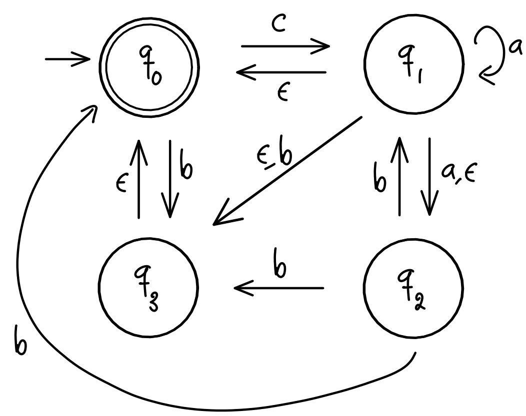
c) M_c



$Q = \{q_0, q_1, q_2, q_3\}$

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

q_0 estado inicial

q_0 estado final

δ	a	b	c	ϵ
q_0	$\emptyset$	$\{q_3\}$	$\{q_1\}$	$\emptyset$
q_1	$\{q_1, q_2\}$	$\{q_3\}$	$\emptyset$	$\{q_0, q_2, q_3\}$
q_2	$\emptyset$	$\{q_0, q_1, q_3\}$	$\emptyset$	$\emptyset$
q_3	$\emptyset$	$\emptyset$	$\emptyset$	$\{q_0\}$

Aplicamos el teorema 2.1 para hallar M_c' DFA tal que $L(M_c') = L(M_c)$

Recordar la ϵ-closure $[q] := \{p \in Q : q \xrightarrow{\epsilon} p\}$

$[q_0] = \{q_0\}$

$[q_1] = \{q_1, q_0, q_2, q_3\} = [q_0, q_1] = [q_1, q_2] = [q_1, q_3] = [q_0, q_1, q_2, q_3] = [q_0, q_1, q_2] = [q_0, q_1, q_3] = [q_1, q_2, q_3]$

$[q_2] = \{q_2\}$

$[q_3] = \{q_3, q_0\} = [q_0, q_3]$

$[q_0, q_2] = \{q_0, q_2\}$

$[q_2, q_3] = \{q_2, q_3, q_0\} = [q_0, q_2, q_3]$

luego $\mathcal{Q} := \{\emptyset, [q_0], [q_1], [q_2], [q_3], [q_0, q_2], [q_2, q_3]\} \subseteq \mathcal{P}(Q)$

$\mathcal{F} := \{[q_0], [q_1], [q_3], [q_0, q_2], [q_2, q_3]\}$

Recordar que $\delta'[q]\,x := \{ p \in Q : \exists\, q_i \in [q] \text{ tal que } q_i \xrightarrow{x} p \}$

δ'	a	b	c
$[q_0]$	$\emptyset$	$[q_3]$	$[q_1]$
$[q_1]$	$[q_1]$	$[q_1]$	$[q_1]$
$[q_2]$	$\emptyset$	$[q_1]$	$\emptyset$
$[q_3]$	$\emptyset$	$[q_3]$	$[q_1]$
$[q_0, q_2]$	$\emptyset$	$[q_1]$	$[q_1]$
$[q_2, q_3]$	$\emptyset$	$[q_1]$	$[q_1]$
$\emptyset$	$\emptyset$	$\emptyset$	$\emptyset$

luego $M'_c := (\mathcal{Q}, \Sigma, \delta', [q_0], \mathcal{F})$
es el DFA tal que $L(M'_c) = L(M_c)$