# Coder

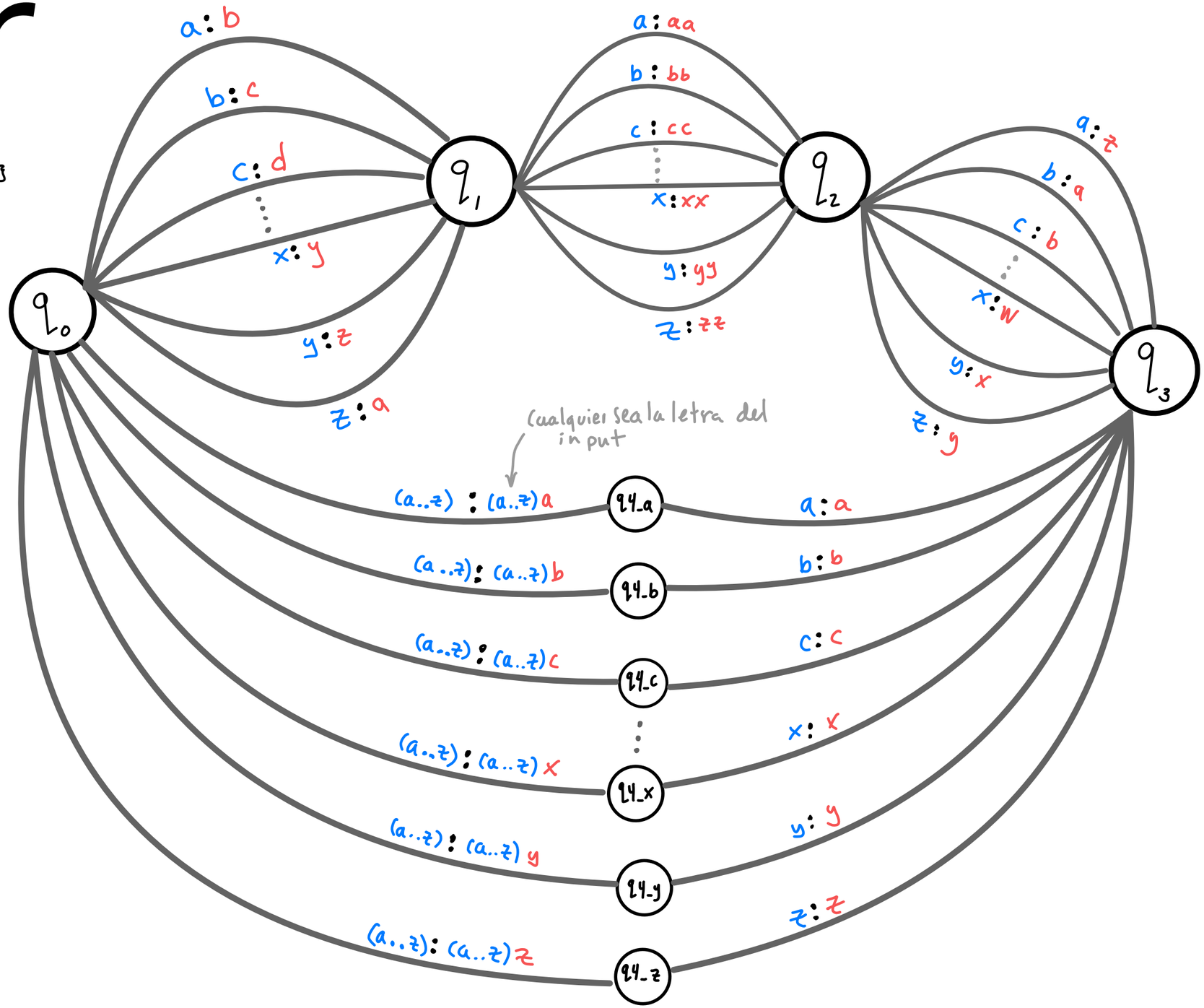
$Q = \{ q_0, q_1, q_2, q_3 \} \cup \{ q_{4\_a}, q_{4\_b}, q_{4\_c}, \ldots, q_{4\_x}, q_{4\_y}, q_{4\_z} \}$

$\Sigma = (a..z)$

$\Gamma = (a..z)$

$q_I = q_0$

$F = Q$



# Decoder

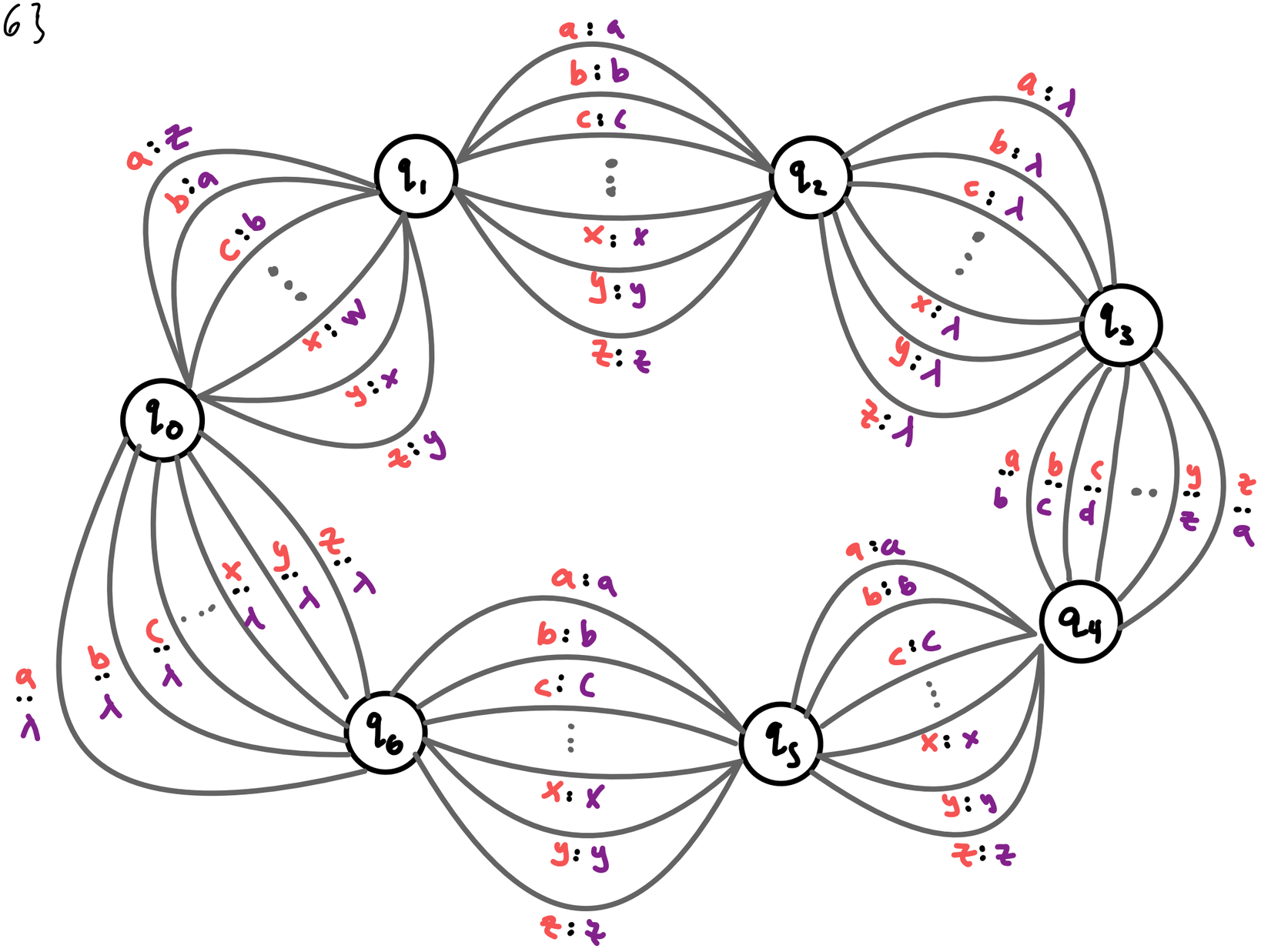
$Q = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6\}$

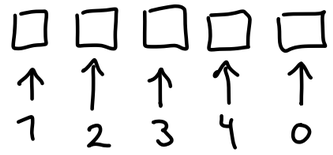
$\Sigma = (a..z)$

$\Gamma = (a..z)$

$q_I = q_0$

$F = Q$






$q \% 5 = 1 \rightarrow$ decoded with previous letter of the alphabet

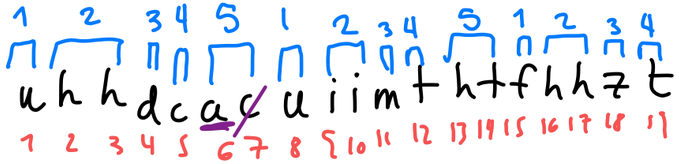
$q \% 5 = 2 \rightarrow$ decoded by reading letters in pos 2 and 3 and output 1

$q \% 5 = 3 \rightarrow$ decoded with next letter of the alphabet

$q \% 5 = 4 \rightarrow$ no need to decode, just print the same thing

$q \% 5 = 0 \rightarrow$ take letter in pos 6 and output it, ignore letter in pos 7

} Decoder Rules




t h e c a

5 $\xrightarrow{\text{code}}$ 7

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