

Exercise 4

$L = \{ u \# u \mid \text{where } u \text{ is a string} \}$ and also checks the integrity of the tapes

$L = \{ q_1, z_1, \Gamma, (q_1, q_{\text{accept}}, q_{\text{reject}}) \}$

$Q = \{ q_1, q_2, q_3, q_4, q_5, q_6, q_7, q_{\text{accept}}, q_{\text{reject}}, q_{\text{final acc}}, q_{\text{final rej}} \}$

$\Sigma = \{ 0, 1, \# \}$

$\Gamma = \{ 0, 1, \# \}$

$n_{\text{start}} = q_1$

$\text{accept} = q_{\text{final acc}}$
 $\text{reject} = q_{\text{final rej}}$

* if the tape values are different, it will not go from q_{accept} to $q_{\text{final acc}}$.

