A machine as Step 1, wrote out the states $Q_1 \times Q_2$ — got that state: walk through the states $I(Q) = |Q_1|/|Q_2|$ quadratic.
Determine
\[ \mathbb{Q}^*_+ \cap \mathbb{Q} \]
\[ |\mathbb{Q}_+| = 2 \]

Large

Build this
also not regular

\[ \left\{ s \in \{0,1\}^* \mid \#s > 0 \right\}, \quad = = + + \text{13} \]

This is also non-regular

010010110001

\[ x \quad y \]