Construct a regular expression for the language accepted by the following DFA, defined as \( (Q, \Sigma, \delta, q_0, F) \) where

1. \( Q = \{q_1, q_2, q_3\} \)
2. \( \Sigma = \{a, b\} \)
3. \( q_1 \) is the start state
4. \( F = \{q_1, q_3\} \)
5. \( \delta \) is given by

\[
\begin{array}{c|ccc}
 & a & b \\
\hline
q_1 & q_2 & q_2 \\
q_2 & q_2 & q_3 \\
q_3 & q_2 & q_1 \\
\end{array}
\]

The algorithm first builds a GNFA with a special form described in the textbook and in class. Then it removes the internal states one by one in arbitrary order.

Since removing the states in a different order leads to a different solution, to ease grading, please remove the internal in the following order:

1. \( q_2 \)
2. \( q_3 \)
3. \( q_1 \)