Procedure to Find Equivalent States in a DFA

- Make a table with cells that represent pairs of states. When the procedure is finished all state pairs that are not equivalent will be marked and those that are not marked will indicate the equivalent state pairs. Note that since equivalence of states is reflexive, the cells in the diagonal of the table can never be marked and since equivalence of states is symmetric you only need to work with one triangle of the table, e.g., the lower left cells.
- Make one pass over all empty cells in the table and mark each cell that corresponds to state pairs where one state is an accept state and the other is a reject state.
- Repeatedly make passes over all empty cells in the table marking each cell that represents a state pair, (p, q), such that there exists a letter $a \in \Sigma$ such that $(\delta(p, a), \delta(q, a))$ is a cell which has been marked.
- When no cell is changed on one the above passes the procedure is finished and unmarked cells correspond to all equivalent state pairs in the DFA.