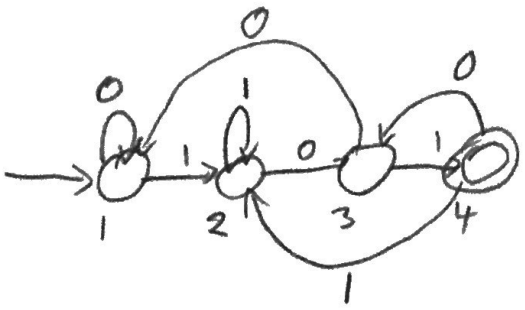
4.



Proof A minimal states — choose strings for every pair of states such that one leads to accept, the other rejects.

1, 2: 01 2, 3: 1 3, 4: ε

1, 3: 1 2, 4: ε

1, 4: ε

Each pair of states contains a string sequence such that one accepts and the other rejects. This DFA therefore is in minimal form, hence 4 is the minimal number of states.