Problem 7.42. Consider the algorithm $MINIMIZE$, which takes a DFA M as input and outputs DFA M'.

Part a. Show that M and M' are equivalent.

Proof.   □

Part b. Show that M' is minimal—that is, no DFA with fewer states recognizes the same language. You may use the result of Problem 1.52 without proof.

Proof.   □

Part c. Show that $MINIMIZE$ operates in polynomial time.

Proof.   □