

Claim 16 (Modifying a list ADT is \mathcal{I} -confluent with respect to non-containment constraints). Assume ADT list modifications are not \mathcal{I} -confluent with respect to some non-containment constraint $I(D) = \{add(k, l) \notin D \wedge del(k, l) \in D\}$ for some constant k . By definition, there must exist two I - T -reachable states S_1 and S_2 with common ancestor reachable via list modifications such that $I(S_1) \rightarrow true$ and $I(S_2) \rightarrow true$ but $I(S_1 \sqcup S_2) \rightarrow false$; therefore, $add(k, l) \in \{S_1 \sqcup S_2\}$ and $del(k, l) \notin \{S_1 \sqcup S_2\}$. But this would imply that $add(k, l) \in S_1$, $add(k, l) \in S_2$, or both (while $del(k, l)$ is in neither), a contradiction. \square