

In the office hours this week, we reviewed

- how to prove FSA correctness using **state invariant**. In particular, we discussed how state invariant should be devised to cover all possible cases collectively, such that we do not need to do a double work (both showing $p \rightarrow q$ and $q \rightarrow p$) in the proof of Example 89. As another example we sketched a proof for proof of Example 88, [here](#), in which $P(\omega)$ will have 3 cases, each of which is the SI for one of the states in the corresponding FSA, and they together cover all possible cases of ω .
- how to, **systematically**, devise an FSA for *union* of two (or more languages) as well as for the *intersection*, and *set difference* operators. The following questions were if we can do a similar approach for *complement* and *reverse*.