PVS Assignment 2 (liftif)

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- *1(a):* **assert** work on **if**-expressions only if the **if** condition can be simplified to *true* or simplified to *false* (prover-guide pg. 80). Since this is not possible in this case, **assert** does not work.

- *1(b):* pg. 45 of the prover-guide states that **split** works on **IF(B,C,D)** in the consequent by collecting formulas of the sort $B \supset C$ or $\neg B \supset D$. Since neither of these occur in *iflemma1*, **split** does not have an effect. **prop** repeatedly uses **split** and **flatten**, which for similar reasons, has no effect. **ground** uses **prop** and **assert**, and since neither of them work, neither does **ground.**

- *1(d):* **lift-if *** pulls the equality into the **IF** structure, by imposing the equality in each possibility of the **IF**-expressions instead of imposing the equality of the two outermost **IF**-expressions themselves.