Exercise 1: The $\pi$VC compiler ($\text{pivc}$)
Install and run the program $\text{pivc}$. You do not need an external solver as the new versions of $\pi$VC use a webservice for these tasks. Thus you have to be online to use it. You can find $\pi$VC and some samples on http://cs.stanford.edu/people/jasonaue/pivc/.

(a) Load the example program $\text{InsertionSort}$. Replace the post condition with $\text{true}$. Check the flag “Generate Runtime Assertions” in the compile menu and add the loop invariants that are needed to prove them. All verification conditions should be valid (green).

(b) Now set the post-condition back to $\text{sorted}(rv,0,\text{length}(a)-1)$. Add the necessary invariants to prove the correctness of the program.