Lecture 16: sorting

- using loop invariants to develop sorts
To develop a loop:

- write down an invariant \( P \)

- initialization: (does it start right?)
  set variables so that \( P \) is true

- termination: (does it end right?)
  after the loop, if invariant is true and guard is false (i.e., loop terminates) is my postcond. true?

- progress: (does it go forward?)
  update vars so they approach term. cond.

- preservation: (is invariant always true?)
  loop body must reestablish invariant