Introduction to Algorithms - 3rd Edition - Thomas Cormen et.al.

Chapter 2

- The **loop invariant** is the statement defining the properties of a loop at each iteration. It must satisfy three things:

  Initialization It is true prior to the first iteration of the loop.

  Maintenance If it is true before an iteration of the loop, it remains true before the next iteration.

  Termination When the loop terminates, the invariant gives us a useful property that helps show that the algorithm is correct.