Review Questions for Reading #3

1. What is a loop invariant for a while loop?

2. Why is it important that you play close attention (and be careful) when reading the computing literature concerning “loop invariants”?
3. What are loop invariants used for — and why is it important for them to be reasonably complete?

4. Briefly describe a process that you can follow to establish that a given assertion is a loop invariant for a given while loop in an algorithm.
5. What does it mean for an algorithm (for a given computational problem) to be *partially correct*?

6. How are *partial correctness* of an algorithm and *correctness* of an algorithm related?