

Quiz 2 Review

Mon Oct 5

- As last time, the quiz will begin the class, be 30 minutes long; we'll take a short break and have lecture. The quiz will be closed book, closed notes, no support equipment.
- The quiz will cover the syntax/semantics of statements/programs in our deterministic language; partial correctness triples and their satisfaction; and syntactic substitution.

Outcomes

The relevant outcomes for Lectures 4 & 5 are below; the most important ones are in bold. Please study the relevant activities/homework problems and expect to see similar problems.

1. **Know the basic syntax** of our simple deterministic programming language.
2. Translate programs in our simple language to/from similar programs in standard languages like C, C++, or Java.
3. Have practice determining the state changes that occur during execution of a simple program.
4. Have an **intuitive knowledge of the state-transforming semantics** of our simple programming language.
5. Be familiar with $\mathcal{M}[[S]](\sigma)$ [**the notation and how to calculate it** for short S].
6. Know what it means for a predicate to be satisfied in a state; be familiar with the notation $\sigma \models p$, and be able to check whether or not $\sigma \models p$ holds.
7. **Know the syntax of correctness triples** (a.k.a. Hoare triples) as $\{p\} S \{q\}$ and that its precondition and postcondition are p and q respectively.
8. Understand what it means for a program to meet/**satisfy its specification in a given state** (notation $\sigma \models \{p\} S \{q\}$). [Under partial correctness.]
9. Understand what it means for a correctness triple to be valid (notation $\models \{p\} S \{q\}$).
10. Know **how to do syntactic substitution** and **why we need it**.