### Lesson 18: Lifetimes (Part 1)

* **Reading:** “The Rust Programming Language” Chapter 18
* **Assignments:** Prepare for PEX 2
* **Preflight:** Review the references and borrowing (A quick questionnaire regarding those topics may be helpful as a preflight activity).
* **Lesson Goals:**
  + Understand what lifetimes are and how they ensure secure memory-management
  + Understand the Borrow Checker and its role in lifetimes
* **Motivation:** Lifetimes is a unique concept to Rust and does not appear in any other programming language. Thus, it is important that students become comfortable with references, borrowing, and lifetimes. Students need to think in lifetimes and understand the safeguards/friction that Rust puts in place.
* **Lecture:** 
  + Introduce lifetimes, spending ample time covering their unique properties
  + Introduce the Borrow Checker and walk through some examples of it in practice
  + Show various lifetime annotations in function signatures and step through the affect on the Borrow Checker
* **Lab:** Lab due Lesson 19