CSE 341:
Programming Languages

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Lecture 19— Modularity in MzScheme

Modularity

R5RS does not even have `define-struct` or namespace management.

This makes it difficult (impossible in practice?) to maintain library invariants:

- Can use `let` to hide private things

- Can make private copies to detect changes to values or "forged values" (but often may as well just re-check invariants)

- But clients can still assume things about the implementation

It should not be this awkward/expensive!

But can we have strong modules without compile-time types?

Yes, with `define-struct`, name hiding, and run-time checks.

An interesting comparison

In ML, an *abstract type* prevents abstraction-breaking clients (won't typecheck)

In MzScheme, a *fresh type* and *hidden predicate* prevents abstraction-breaking clients (unbound variable).