



Final Review

In Text: Chapters 1-9, 11, 14, 15



Chapters Covered

Before Midterm:

- Ch. 1—Introduction
- Ch. 2—History
- Ch. 3—
Syntax/Semantics
- Ch. 11—OOPs
- Ch. 14—Functional
PLs
- Ch. 15—Logic PLs

Since Midterm:

- Ch. 4—Names &
Binding
- Ch. 5—Data Types
- Ch. 6—Expressions
- Ch. 7—Control
Structures
- Ch. 8—Subprograms
- Ch. 9—Activation Recs



Chapters 1-3, 11, 14, 15

- See Midterm Review
- Exam is comprehensive, but most material will be from chapters covered since the midterm



Ch. 4: Names and Binding

- What are the six attributes? What do they mean?
- Binding and possible binding times
- Type checking
- Two type compatibility methods
- Scope vs. lifetime



Ch. 5: Data Types

- Primitive types
- Type constructors:
 - Arrays
 - Records
 - Unions
 - Sets
 - Pointers
- Design issues
- Type checking issues



Ch. 6: Expressions

- Precedence rules
- Associativity rules
- Order of operand evaluation
- Type conversions: widening and narrowing
- Type coercions vs. explicit conversions
- Mixed-mode expressions
- Relational and boolean expressions
- Short-circuit evaluation



Ch. 7: Control Structures

- Design issues
- Selection
 - One-way
 - Two-way
 - Multi-way
- Iteration
 - Counter-controlled
 - Logically-controlled
- Gotos
- Guarded statements



Ch. 8: Subprograms

- Definitions
- Referencing environment
- What are the common parameter passing modes and mechanisms?
- Independent vs. separate compilation
- Advanced subprogram issues



Ch. 9: Implementing Subprograms

- Activation records
- Accessing locals
- Accessing nonlocals (static scoping)
 - Static chains
 - Displays
- Implementing blocks
- Accessing nonlocals with dynamic scoping