3007 Final Exam Review

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Contents

1 Definitions

1.1 Imperative vs Declarative

1.1.1 Imperative

- Series of instructions
- Iterative functions
- Command driven, statement oriented
- Procedural
  - C
  - Pascal
  - Assembly
- Object oriented
  - C++
  - Java

1.1.2 Declarative

- No side effects
- Focus on relations
- "What to get" instead of "How to get"
- Order of statements *shouldn't* matter
- Examples:
  - SQL
  - Prolog
  - Regex

1.2 Scope vs Visibility

1.2.1 Scope

- The set of expressions for which the variable exists
- In lexical scoping
  - variables in the scope we were *defined* in
- In dynamic scoping
  - variables in the scope we were *called* in

1.2.2 Visibility

- The set of expressions for which the variable *can be reached*
- If we **declare a local variable** with the *same name* as a variable in parent scope
  - that parent scope variable is now hidden
  - all references to *name* are to our locally coped variable instead