



Compilers

Introduction to Semantic Analysis

- Lexical analysis
 - Detects inputs with illegal tokens
- Parsing
 - Detects inputs with ill-formed parse trees
- Semantic analysis
 - Last “front end” phase
 - Catches all remaining errors

- Parsing cannot catch some errors
- Some language constructs not context-free

- Checks of many kinds . . . **coolc** checks:
 - 1. All identifiers are declared
 - 2. Types
 - 3. Inheritance relationships
 - 4. Classes defined only once
 - 5. Methods in a class defined only once
 - 6. Reserved identifiers are not misused
 - And others . . .
- The requirements depend on the language