

Chapter 5

Basic Semantics

Ways to specify semantics

- **Language reference manual – commonly used, but lack of precision**
- **By a defining translator – questions cannot be answered in advance – only by trying it**
- **By formal definition – denotational semantics – complex and abstract**
- **A fundamental step in defining semantics is to describe the meaning of each identifier.**

Attributes

- **Properties of language entities, especially identifiers used in a program.**
- **Important examples:**
 - Value of an expression
 - Data type of an identifier
 - Maximum number of digits in an integer
 - Location of a variable
 - Code body of a function or method
- **Declarations ("definitions") bind attributes to identifiers.**
- **Different declarations may bind the same identifier to different sets of attributes.**