Summary

- Relational expressions (conditions):
  - Are used to compare operands
  - A condition that is true has a value of 1
  - A condition that is false has a value of 0
- More complex conditions can be constructed from relational expressions using C++'s logical operators, `&&` (AND), `||` (OR), and `!` (NOT)
- `if-else` statements select between two alternative statements based on the value of an expression

Summary (cont'd.)

- `if-else` statements can contain other `if-else` statements
  - If braces are not used, each `else` statement is associated with the closest unpaired `if`
- `if-else` chain: a multi-way selection statement
  - Each `else` statement (except for the final `else`) is another `if-else` statement
- Compound statement: any number of individual statements enclosed within braces

Summary (cont'd.)

- Variables have meaning only within the block where they are declared
  - Includes any inner blocks
- `switch` statement: multiway selection statement
  - The value of an integer expression is compared to a sequence of integer or character constants or constant expressions
  - Program execution transferred to first matching `case`
  - Execution continues until optional `break` statement is encountered

Chapter Supplement: A Closer Look at Testing

- A comprehensive set of test runs would reveal all possible program errors
  - Ensuring that a program works correctly for any combination of input and computed data
- This goal is usually impossible
  - Except for extremely simple programs
- At a minimum, test data should include:
  - Suitable values for input data
  - Illegal input values that the program should reject
  - Limiting values that are checked in the program