5 Selection Statements

Programmers are not to be measured by their ingenuity and their logic but by the completeness of their case analysis.

return statement ➤2.2
expression statement ➤4.5

Although C has many operators, it has relatively few statements. We've encountered just two so far: the `return` statement and the expression statement. Most of C's remaining statements fall into three categories, depending on how they affect the order in which statements are executed:

- ***Selection statements.*** The `if` and `switch` statements allow a program to select a particular execution path from a set of alternatives.
- ***Iteration statements.*** The `while`, `do`, and `for` statements support iteration (looping).
- ***Jump statements.*** The `break`, `continue`, and `goto` statements cause an unconditional jump to some other place in the program. (The `return` statement belongs in this category, as well.)

The only other statements in C are the compound statement, which groups several statements into a single statement, and the null statement, which performs no action.

This chapter discusses the selection statements and the compound statement. (Chapter 6 covers the iteration statements, the jump statements, and the null statement.) Before we can write `if` statements, we'll need logical expressions: conditions that `if` statements can test. Section 5.1 explains how logical expressions are built from the relational operators (`<`, `<=`, `>`, and `>=`), the equality operators (`==` and `!=`), and the logical operators (`&&`, `||`, and `!`). Section 5.2 covers the `if` statement and compound statement, as well as introducing the conditional operator (`?:`), which can test a condition within an expression. Section 5.3 describes the `switch` statement.