Statements

A statement is a complete direction instructing the computer to carry out some task. In C, statements are usually written one per line, although some statements span multiple lines. C statements always end with a semicolon (except for preprocessor directives such as #define and #include. For example: x = 2 + 3; is an assignment statement. It instructs the computer to add 2 and 3 and to assign the result to the variable x.

Compound Statements

A compound statement, also called a block, is a group of two or more C statements enclosed in braces. Here's an example of a block:

```
{
   printf("Hello, ");
   printf("world!");
}
```

Expressions

In C, an expression is anything that evaluates to a numeric value.

Simple Expressions

The simplest C expression consists of a single item: a simple variable, literal constant, or symbolic constant. Here are four expressions:

Expression	*Description*
PI	A symbolic constant (defined in the program)
20	A literal constant
rate	A variable
-1.25	Another literal constant

A literal constant evaluates to its own value. A symbolic constant evaluates to the value it was given when you created it using the #define directive. A variable evaluates to the current value assigned to it by the program.

Complex Expressions

Complex expressions consist of simpler expressions connected by operators. For example: 2 + 8 is an expression consisting of the subexpressions 2 and 8 and the addition operator +. The expression 2 + 8 evaluates, as you know, to 10. You can also write C expressions of great complexity: 1.25 / 8 + 5 * rate + rate * rate / cost

When an expression contains multiple operators, the evaluation of the expression depends on operator precedence. This concept is covered later in this chapter, as are details about all of C's operators.

C expressions get even more interesting. Look at the following assignment statement:
x = a + 10;
This statement evaluates the expression a + 10 and assigns the result to x. In addition, the entire statement x = a + 10 is itself an expression that evaluates to the value of the variable on the left side of the equal sign.