
Dictionary of Computer and Internet Terms

Tenth Edition

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Compaq a major manufacturer of IBM PC-compatible computers. Compaq's first product, released in 1983, was the first PC CLONE (i.e., the first PC-compatible computer not made by IBM). In 1988 Compaq led a group of other computer companies in the development of a 32-bit PC bus (*see* EISA). In 1998, Compaq acquired Digital Equipment Corporation, manufacturers of the Alpha microprocessor. In 2002, Compaq merged with Hewlett-Packard.

compatibility mode the ability of recent versions of Microsoft Windows to simulate earlier versions in order to run older software. To set the compatibility mode for a piece of software, right-click on its icon and look for the settings under Properties.

compatible

1. able to work together. For example, a particular brand of printer is compatible with a particular computer to which it can be connected.
2. able to run the same software. *See* PC COMPATIBILITY.

compile-time error an error in a computer program that is caught in the process of compiling the program. For example, a compile-time error occurs if the syntax of the language has been violated. *Contrast* RUN-TIME ERROR. *See also* BUG.

compiler a computer program that translates C, C++, BASIC, Pascal, or a similar high-level programming language into machine language. The high-level language program fed into the compiler is called the *source program*; the generated machine language program is the *object program*.

complement

1. either of two ways of representing negative numbers in binary:
 - a. The *1-complement* of a binary number is obtained by simply changing every 0 to 1 and every 1 to 0. For example, the 1-complement of 0001 is 1110. In this system, 0000 and its complement 1111 both represent zero (you can think of them as +0 and -0, respectively).
 - b. The *2-complement* of a binary number is found by reversing all the digits and then adding 1. For example, the 2-complement of 0001 is $1110 + 1 = 1111$. This is the system normally used on most computers, and it has only one representation of zero (0000). *See* BINARY SUBTRACTION.
2. the opposite of a color; the hue, which when mixed with the first hue, can give colorless gray. For example, red is the complement of green.

complex number a number consisting of two parts, called *real* and *imaginary*. Complex numbers are written in the form $a + bi$, where a is the real part, b is the size of the imaginary part, and i is the square root of -1 . (If $b = 0$, the complex number is of course equal to a real number.)

Unlike real numbers, complex numbers can produce negative numbers when squared; because of this fact, all polynomials have complex roots even though some of them lack real roots. Another use of complex num-