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1

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reboot To cause a computer to reload its operating system and reinitialize all its systems (see also **BOOTSTRAP**).

A reboot is typically performed to escape from a software **CRASH** that has rendered the computer inoperable, or to confirm an alteration made to some fundamental system parameter that takes effect only at start up time. Rebooting is a drastic option that destroys any data not yet saved onto a permanent medium (e.g. a disk file).

POCKET COMPUTERS and mobile telephones (which lack disk storage), and publicly accessible or **MISSION-CRITICAL** network **SERVERS**, are increasingly expected to operate for months at a time without rebooting, which will favour operating system designs that can be reconfigured without forcing a reboot.

recalculate In a **SPREADSHEET** program, to cause the values in all its **CELLS** to be recomputed to take account of newly entered data.

receiver 1 The incoming portion of any communication hardware system such as a network, a telephone or a radio link. Compare this to a **TRANSMITTER**.

2 In a communications software system, the program or agent that accepts incoming messages. Compare this with a sender.

recognition The use of a computer to identify various sorts of pattern found in the real world. See more under **SPEECH RECOGNITION**, **IMAGE RECOGNITION**, **PATTERN RECOGNITION**, **FACE RECOGNITION**, **IRIS RECOGNITION**, **FINGERPRINT RECOGNITION**.

recompile To **COMPILE** a program again from its **SOURCE CODE**, for example to correct bugs, to incorporate improvements, or to run on a different processor type.

reconfigure To alter the characteristics of a hardware or software device. See more under **CONFIGURATION**.

reconnect To remake a network connection that has been broken.

record A data structure consisting of a collection of **FIELDS**, possibly each containing data of a different type, which is employed as the basic unit of information to be stored in a **DATABASE**. For example a simple personnel database might contain records with the structure:

name: **STRING**

address1: **STRING**

address2: **STRING**

birthdate: **DATE**

and an **INSTANCE** of such a record in the database with its fields filled in might look like:

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All the languages used in commercial programming (e.g. **COBOL**, **C**, **VISUAL BASIC**, **DELPHI**) provide some kind of record structure as a user-definable data type.

record locking A mechanism employed in multi-user databases to avoid conflicts when different users are trying to update the same **RECORD**. While one user is editing a particular record, all other users are prevented from accessing that record and will be shown a message to that effect.

There are two commonly used modes of record locking. *Full record locking* prevents all other users from accessing a record for as long as that record is locked for modification. *Optimistic record locking* allows two users to modify the same record simultaneously, locking the record only when one user writes it back to the database, and giving the other user a warning message with an option to override the lock. See also **FILE LOCKING**, **FILE SHARING**, **LOCK MANAGER**.

recovery 1 The actions taken by a program or its user to regain control after an **ERROR CONDITION** has arisen. Recovery may involve closing down the errant process, restoring damaged data structures to a known state and, as a last resort, restarting the program completely.

2 The retrieval of data that has been lost because of a program or hardware **CRASH**. For example using special tools to read the data from a **HARD DISK** that has suffered a **HEAD CRASH**. See also **DISASTER RECOVERY**.

recursion In a program or subprogram, the act of calling itself. Recursion may be employed in many (though not all) circumstances instead of **ITERATION** to repeatedly execute the same section of code. However, a