

*The Penguin Concise Dictionary of*  
**Computing**

*Dick Pountain*



PENGUIN BOOKS

Ref.  
QA76.15  
.P68  
2003

PENGUIN BOOKS

Published by the Penguin Group  
Penguin Books Ltd, 80 Strand, London WC2R 0RL, England  
Penguin Putnam Inc., 375 Hudson Street, New York, New York 10014, USA  
Penguin Books Australia Ltd, Camberwell Road, Camberwell, Victoria 3124, Australia  
Penguin Books Canada Ltd, 10 Alcorn Avenue, Toronto, Ontario, Canada M4V 3B2  
Penguin Books India (P) Ltd, 11, Community Centre, Panchsheel Park, New Delhi - 110 017, India  
Penguin Books (NZ) Ltd, Cnr Rosedale and Airborne Roads, Albany, Auckland, New Zealand  
Penguin Books (South Africa) (Pty) Ltd, 24 Sturdee Avenue, Rosebank 2196, South Africa  
Penguin Books Ltd, Registered Offices: 80 Strand, London WC2R 0RL, England  
www.penguin.com

*The New Penguin Dictionary of Computing* first published 2001  
This concise edition first published 2003  
1

Copyright © Dick Pountain, 2001, 2003  
All rights reserved

The moral right of the author has been asserted

Typeset in 7.5 on 9.75 pt ITC Stone Serif  
This book was produced using Librios® authoring and content management technology  
Printed in England by Clays Ltd, St Ives plc

Except in the United States of America, this book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser

EASTERN WASHINGTON  
UNIVERSITY LIBRARIES  
CHENEY, WA 99004

**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:

Fred Nurk

2 Acacia Avenue

London NW12

12/12/1955

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