

A Dictionary of

Computer Science

SEVENTH EDITION

OXFORD
UNIVERSITY PRESS

NVIDIA 1034

OXFORD

UNIVERSITY PRESS

Great Clarendon Street, Oxford, OX2 6DP,
United Kingdom

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide. Oxford is a registered trade mark of
Oxford University Press in the UK and in certain other countries

© Market House Books Ltd, 1983, 1986, 1990, 1996, 2004, 2008, 2016

The moral rights of the author have been asserted

First edition 1983

Second edition 1986

Third edition 1990

Fourth edition 1996

Fifth edition 2004

Sixth edition 2008

Seventh edition 2016

Impression: 4

All rights reserved. No part of this publication may be reproduced, stored in
a retrieval system, or transmitted, in any form or by any means, without the
prior permission in writing of Oxford University Press, or as expressly permitted
by law, by licence or under terms agreed with the appropriate reprographics
rights organization. Enquiries concerning reproduction outside the scope of the
above should be sent to the Rights Department, Oxford University Press, at the
address above

You must not circulate this work in any other form
and you must impose this same condition on any acquirer

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data

Data available

Library of Congress Control Number: 2015952805

ISBN 978-0-19-968897-5

Ebook ISBN 978-0-19-100288-5

Printed in Great Britain by

Clays Ltd., Elcograf S.p.A.

Links to third party websites are provided by Oxford in good faith and
for information only. Oxford disclaims any responsibility for the materials
contained in any third party website referenced in this work.

decoder/driver An electronic device that is capable of accepting encoded data at its input and generating unencoded data at its output. The decoding process employed may conform to an agreed standard or be user-defined. The outputs of these devices are designed to drive specific external equipment such as *LCD or *LED displays.

decoder error *See* CHANNEL ERROR.

decoding The process of reconvertng a coded message to the message from which it was encoded. *See also* CODE.

decollator A machine that can process multicopy printed output into separate stacks of copy and used carbon paper. Decollation is normally done as an offline activity and the decollator may be combined with a burster that breaks the continuous forms at the perforations to give separate sheets.

decompiler A program that attempts to do for compiler output what a *disassembler does for assembler output, i.e. translate back from machine code to something resembling the source language. The task is difficult and not often attempted.

decomposition 1. In switching theory, the realization of an n -variable switching function as a composition of functions, each of which has less than n variables. Like other *minimizations, decomposition is facilitated by *Karnaugh maps. 2. In programming, the analysis of a problem into simpler sub-problems. *See* MODULAR PROGRAMMING, PROGRAM DECOMPOSITION.

decompression Returning a compressed image or compressed data to its uncompressed form. Some compression methods lose information so that the uncompressed image or data is not equivalent to the original.

deconvolution *See* CONVOLUTION.

decryption The processing of an encrypted message by an authorized recipient in order to recover the original message. *See also* CRYPTOGRAPHY. *Compare* CRYPTANALYSIS.

dedicated Committed entirely to a single purpose or device. For example, a computer system may be dedicated to the job of controlling an industrial machine tool. A dedicated device or resource may be idle for significant periods of time.

dedicated mode A processing mode in which the system is operated for a single purpose, and for only those users with sufficient *security clearance to access all the information on the system.

deduction A formal method of logical *inference. Deduction is the process of applying one or more inference rules to a given set of facts (known as **axioms**) and inferring new facts. Unlike the other methods of inference, *abduction and *induction, deduction produces logically sound results, i.e. involves no uncertainty.

deductive apparatus *See* FORMAL METHOD.

Deep Blue *See* COMPUTER CHESS.

deep case One of a set of semantic roles that can be used as grammatical primitives in terms of which sentences are constructed. Examples of deep cases are Agent, Patient, and Theme, although the contents of comprehensive lists vary from one presentation to another. *See also* CASE GRAMMAR.

deep structure A notion that is central to transformational grammar's (Chomsky 1965) description of the *syntax of natural language. Deep structure is where the predicate—argument relationships are expressed, and both relates the words of a sentence to its meaning and expresses grammatical generalizations. Within the 'standard theory' of transformational grammar the context-free base generates deep structures and a set of transformations that map these to the surface structure. In *natural-language processing, sentences can be analysed by either fully or partially running transformations in reverse.

Deep Thought *See* COMPUTER CHESS.

default A value that is used when no other value has been supplied. Defaults may be stored in a configuration file, or they may be embedded in a program or permanently encoded into ROM, or read from the settings