STANDARD DICTIONARY OF COMPUTERS AND INFORMATION PROCESSING

MARTIN H. WEIK

Preface

"When I use a word," Humpty Dumpty said in rather a scornful tone, "it means just what I choose it to mean—neither more nor less."

"The question is," said Alice, "Whether you can make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master – that's all."

From *Through the Looking Glass*

For effective communication, perhaps there can be no master. Both sender and receiver must have arrived at a basic agreement on the meaning of the terms and their codes in a given message. If agreement has not been reached, the sender must include definitions of the words and codes that are in the message, in which case there must have been prior agreement on the definition of the terms used in the definitions, ad infinitum. *Standard Dictionary of Computers and Information Processing* is designed to advance the ability of men and machines to communicate with one another.

Vocabulary development in the broad field of information processing, particularly in computers and automatic data processing, passed a major milestone when the first *American Standard Vocabulary for Information Processing* was published by the United States of America Standards Institute (formerly the American Standards Association) in 1966. It required three years of painstaking effort on the part of Subcommittee X3.5, a highly skilled group of professional experts in information processing. Each member of the group headed a glossary effort for either a computer manufacturer, a technical society, an educational institution, or the federal government. In addition to this standard, six other major vocabulary efforts were undertaken and completed. They included:

(1) *The First Glossary of Programming Terminology*, published in 1954, and *Glossary of Terms in the Computer and Information Processing Field*, both prepared by the Association for Computing Machinery

arithmetic point is not placed and held at a given position with respect to a given end of all numerals in that system. The position of the arithmetic point is expressed by a given convention, such as by an exponent of the radix of the numeration system. In floating-point notation, a number is usually expressed as a fixed-point numeral that serves as a multiplying coefficient and an exponential part that consists of the radix of the numeration system raised to a power, which, in effect, locates the arithmetic point; hence, the term floating point. In the numeral 0.397×10^4, or 0.397 X 04, the 0.397 is the coefficient, sometimes called the fractional part, if it is less than unity, and the 04, or 4, is the power to which the radix is to be raised. The product is the magnitude of the number. In this case, 0.397 X 04 is equivalent to 3970. Floating-point notation permits wide ranges of numbers to be expressed and helps to reduce scaling problems in computers, when it is difficult to predict the magnitude of computed quantities. A numeral resulting from an operation, such as 94,000,000 that might exceed the capacity of a register, might be represented as 9.4,7, or 94,6, where the third digit in the examples is an exponent of the radix. The radix, raised to the indicated power, is then multiplied by the remaining two digits, usually a fixed-point number. By proper selection of the value of the exponent, representing the power to which the radix is to be raised, the fractional part of the number may be held within a given range, still permitting the expression of numbers of greater magnitude. (Contrast with *point, fixed* and with *point, variable.*)

point, index—In punch-card machines containing rotating machinery driven by a main shaft, one of the equally spaced rotational reference positions of the main shaft. The equally spaced reference positions are usually chosen to be those at which successive card rows or columns are at the sensing or punching station of the card reader or punch. Extra index points may be required to allow for a gap between cards while they are traversing the card track. The index point may be labeled according to the row or column, if

program from the last rerun point is available either to the program itself or to a restart routine. This permits repeating the routine from the last rerun or checkpoint in the event of an error or a malfunction. The rerun points may be only three to five minutes apart, so that instead of returning to the beginning of a program in the event of an error, it is only necessary to return to the last rerun point. All information pertinent to a rerun is available in stored or recorded form during the whole time from one rerun point to the next. One purpose of a checkpoint is to permit the rerunning of the program from the checkpoint; thus, a checkpoint may serve as a rerun point. In any case, a computer run may be reconstituted and run again from a rerun point or a checkpoint. (Synonymous with *restart point.*)

point, restart—Same as *point, rerun.*

point, variable—A radix numeration system in which each number is represented by a numeral; that is, a set of digits, with the arithmetic point explicitly indicated by a character placed among the digits by the writer according to the magnitude of the number desired to be expressed; for example, 85.96, 8.596, or 859P6. Usually the point is a dot or period, and its position separates the coefficients of the negative powers of the radix from the coefficients of the positive powers of the radix, being just to the right of the coefficient of the zero power of the radix; that is, just to the right of the units position. (Contrast with *point, floating* and with *point, fixed.*)

point, zero-level transmission reference—An arbitrarily chosen physical point in a circuit to which all transmission levels, such as current, voltage, and power levels, are referred or referenced, and so are measured from. The transmission level at the transmitting switchboard is frequently taken as the zero-level transmission reference level, and thus the transmitting switchboard becomes the zero-level transmission reference point.

polarization diversity—See *diversity, polarization.*

Polish notation—See *notation, Polish.*

poll—In switching networks, to request a station to send data.