PROGRAMS AND PROGRAMMING LANGUAGES

Programming software is used by computer programmers to create all of the computer programs we use, including applications programs and systems software programs. A programming language has words, symbols, and rules of grammar. Every program, including all of the systems and applications programs, and even the programming languages themselves, begin as a set of specific instructions to the computer. Here is a brief description of some of the many high-level languages:

FORTRAN acronym for FORmula TRANslation. This language is used for solving scientific and mathematical problems. It consists of algebraic formulae and English phrases

COBOL acronym for Common Business-Oriented Language. This language is used for commercial purposes. COBOL, which is written using English statements, deals with problems that do not involve a lot of mathematical calculations.

ALGOL acronym for Algorithmic Language. Originally called IAL, which means International Algebraic Language. It is used for mathematical and scientific purposes.

PL/I Programming Language I. Developed to combine features of COBOL and ALGOL. Consequently, it is used for data processing as well as scientific applications.

BASIC acronym for Beginner's All-purpose Symbolic Instruction Code. Developed for use by students who require a simple language to begin programming.

С developed to support the UNIX operating system. С is a highly portable general-purpose language.

Other such languages are APL. PASCAL, and LISP and PROLOG, both of which are used for work in artificial intelligence. LOGO is a development of LISP which has been used to develop computer-based training packages.

The program produced after the source program has been converted into machine code is referred to as an object program or object module. This is done by a computer program called the compiler, which is unique for each computer. Consequently, a computer needs its own compiler for the various high-level languages.

The compiler is a systems program which may be written in any language, but the computer's operating system is a true systems program which controls the central processing unit, the input, the output, and the secondary memory devices. The resulting program is then called the load module, which is the program directly executable by the computer.