

Syntax of Languages

Text-based messages and languages have higher-level syntactic properties. These syntactic rules are known as **grammatical rules**. The grammar of natural languages has evolved historically, and the grammatical correctness of a given text is not always clear-cut. In contrast, the syntax of artificial languages is much more precise. Among the languages constructed to replace natural languages, the most famous and significant is **Esperanto**, created by Zamenhof. Languages built for scientific and technical purposes are subject to strict requirements. From an information science perspective, **mathematical axiom systems** can be considered languages.

The languages created by **computer science** and **information technology** describe computer programs, control programs, protocols, data, facts, and knowledge bases.

- **Processor instruction sets**
- **Programming languages:**
 - **Assembly languages**
 - **Sequential languages:**
 - ENGLISH, FORTRAN, COBOL, PL 1
 - BASIC, Visual Basic
 - PASCAL, Delphi
 - C, C++, Visual C++
 - ADA
 - Java, J++, Perl, PhP
 - **Logical languages:**
 - LISP, PROLOG
- **Command languages:** BASH
- **Configuration languages:** YAML
- **Object description languages:** HTML, XML, EDI
- **Simulation languages:** SIMAN, TLI
- **Technical programming languages**
 - **CNC programming languages:**
 - ISO NCL, APT, EXAPT CLD
 - **Robot programming languages:**
 - VAL, AML

Using **languages**, complex expressions can be created by applying terminal symbols, keywords, and rules. A **program** is an ordered set of such expressions. A program is a finite sequence of expressions written in a programming language, representing a computer-interpretable and executable realization of an algorithm.

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