

PROGRAMMING LANGUAGES

A Brief History



Programming Language :

Programming Language is A notation for describing Algorithms and data.

Program :

A Sentence of a programming language

Lets start From YEAR "1954"

• FORTRAN (FORMula TRANslator)

- created in 1954 by John Backus
- first High level language
- using the first compiler ever developed
- Referred to as Scientific language
- machine Independent.

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• FORTRAN II

→ In 1958 introduces Subroutines, Functions, Loops and a primitive For loop

• IAL (International Algebraic Logic)

→ It started as a project later Renamed ALGOL 58

→ The theoretical definition of the language is published

→ No Compiler

• LISP (LIST Processing)

→ Created in 1958 and released in 1960 by John McCarthy of MIT.

→ LISP was intended for writing Artificial intelligence programs.

Features

- Atoms and Lists data structure
- Functional programming style - all Component's Computation is performed by applying functions to arguments. Variable declarations are rarely used.
- A Reliance on Recursion - a strong reliance on recursion has allowed LISP to be Successful in many Areas, including Artificial Intelligence.

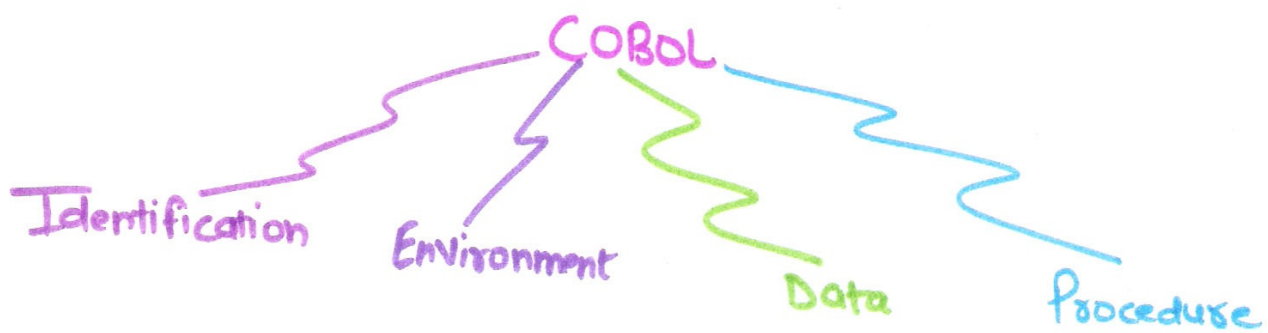
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- **Garbage Collection**: Lisp has built in garbage collection, so programmers do not need to explicitly free dynamically allocated memory.

- **COBOL (Common Business Oriented Language)**

- Created in **May 1959** by the Short Range Committee of the U.S. Department of (DoD).
- The **CODASYL (Conference on DATA SYSTEMS Languages)** worked from **May 1959** to **April 1960**.
- ANSI Standard included (**COBOL-68 (1968)**, **COBOL-74 (1974)**, **COBOL-85 (1985)**, and **COBOL-2002 (2002)**)
- Object Oriented version of COBOL is introduced in **1997** i.e. **COBOL-97**



- Introduced the **RECORD** data structure.

- **ALGOL (ALGORITHMIC Language)**

- Released in **1960**, major releases in **1960** and **1968**.
- It is first **Block-Structured Language**

- Considered to be the first **Second generation Computer Lang.**
- **Machine Independent**
- It introduced Concept like
- **Block Structure Code**
(marked by **BEGIN** and **END**)
- **Scope of Variables**
(Scope of local variables inside blocks)
- **BNF (Backus Naur Form)**
Notation for defining Syntax.
- **dynamic Arrays**
- **Reserved words**
- **IF THEN ELSE, FOR, WHILE loops**
the **:=** Symbol for assignment
SWITCH with **GOTO**
User defined data Type.



- **SNOBOL (Strongly Oriented Symbolic Language)**
 - Created in 1962
 - Intend for "strings"
 - First language to use **Associative Arrays**, indexed by **any type of key**.
 - Had feature of **Pattern-matching, Concatenation,**
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and alternation.

- It allowed running code stored in strings.
- Data Types:- integers, real, array, pattern, and user defined types.

• BASIC (Beginner's All-purpose Symbolic Instruction Code)

- Designed as a teaching language in 1963 by John George Kemeny and Thomas Eugene Kurtz of Dartmouth College.
- Intended to make it easy to learn programming.

PL/I (Programming Language One)

- Created in 1964
 - Intended to combine the features of FORTRAN with COBOL, plus additional facilities for systems programming.
 - Also borrows from ALGOL 60.
 - Originally called NPL (New programming language).
 - Introduces storage classes (automatic, static, controlled and based), exception processing (ON condition).
 - Select when otherwise Conditional structure and several
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Variation of DO Loop.

→ Numerous data types.

- **Pascal** (Named for French religious fanatic and mathematician Blaise Pascal)

→ Created in 1970

→ Intended to replace **BASIC** for teaching language.

→ quickly developed as a general purpose language.

→ Programs compiled to a platform-independent intermediate P-code.

→ Compiler for Pascal was written in Pascal.

• C Language

→ developed from 1969-1972 by Dennis Ritchie.

→ used in system programming for UNIX

- **ANSI C** The American National Standards Institute (ANSI) formed a technical subcommittee, X3J11, to create a standard for the C language and its run-time libraries.

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• Ada

- Released in 1983 (ADA 83), with major releases in 1995 (ADA 95) and 2005 (ADA 2005)
- Created by U.S. Department of Defense (DoD)
- Intended for embedded systems and later intended for all military computing purposes.

• Perl (Practical Extracting and Report Language)

- Created by Larry Wall in 1987
- Intended to replace the Unix shell, sed, Awk.

Python:

- Created in 1991 by Guido van Rossum.
- A scripting language with dynamic type. Intended to replace Perl.

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