**INTRODUCTION**

Programming languages are computer languages that programmers (developers) use to communicate with computers.

Programming Language is indeed the fundamental unit of today’s tech world. It is considered as the set of commands and instructions that we give to the machines to perform a particular task.

In the computer world, we have about 500+ programming languages with having their own syntax and features. It was Ada Lovelace who has written the first-ever computer programming language and the year was 1883.

**HISTORY**

**1883: The Journey starts from here**

In the early days, Charles Babbage had made the device, but he was confused about how to give instructions to the machine, and then Ada Lovelace wrote the instructions for the analytical engine and it was first programming language.

**1949: Assembly Language**

It is a type of low-level language. It mainly consists of instructions (kind of symbols) that only machines could understand. In today’s time also assembly language is used in real-time programs such as simulation flight navigation systems and medical equipment eg – Fly-by-wire (FBW) systems. It is also used to create computer viruses.

**1952: Autocode**

Developed by Alick Glennie. The first compiled computer programming language. COBOL and FORTRAN are the languages referred to as Autocode.

**1957: FORTRAN**

Developers are John Backus and IBM. It was designed for numeric computation and scientific computing. Software for NASA probes voyager-1 (space probe) and voyager-2 (space probe) was originally written in FORTRAN 5.

**1958: ALGOL**

ALGOL stands for Algorithmic Language. The initial phase of the most popular programming languages of C, C++, and JAVA. It was also the first language implementing the nested function and has a simple syntax than FORTRAN.

**1959: COBOL**

It stands for Common Business-Oriented Language. In 1997, 80% of the world’s business ran on Cobol.

**1964: BASIC**

It stands for beginners All-purpose symbolic instruction code. In 1991 Microsoft released Visual Basic, an updated version of Basic The first microcomputer version of Basic was co-written by Bill Gates, Paul Allen, and Monte Davidoff for their newly-formed company, Microsoft.

**1972: C**

It is a general-purpose, procedural programming language and the most popular programming language till now. All the code that was previously written in assembly language gets replaced by the C language like operating system, kernel, and many other applications. C is the mother of almost all higher-level programming languages like C#, D, Go, Java, JavaScript, Limbo, LPC, Perl, PHP, Python, and Unix’s C shell.

**1972: SQL**

SQL was developed at IBM by Donald D. Chamberlin and Raymond F. Boyce. The earlier name was SEQUEL (Structured English Query Language).

**1978:MATLAB**  
It stands for Matrix Laboratory. It is used for matrix manipulation, implementation of an algorithm, and creation of a user interface.

**1983:Objective-C,C++**  
C++ is the fastest high-level programming language. Earlier, Apple Inc uses Objective-C to make applications.

**1990: Haskell**

It is a purely functional programming language.

**1991: Python**

The language is very easy to understand.  Famous language among data scientists and analysts.

**1995:JAVA,PHP,JavaScript  
JAVA** is everywhere. JAVA is the platform-independent language.

**PHP** is a scripting language mainly used in web programming for connecting databases.

**JavaScript** enables interactive web pages. JS is the most popular programming language. JS is famous for building a web application. It makes our page interactive.

**2000:C#**  
C#(C-sharp) is mainly used for making games. Unity engine uses C# for making amazing games for all platforms

**2009: GO**

GO language is developed in Google by Robert Griesemer, Rob Pike, and Ken Thompson.

**2014:Swift**  
Swift language is developed by Apple Inc. It is a general-purpose programming language.

**CLASSIFICATION**

Programming languages can be divided into five levels based on their characteristics of program development:

1. **Low Level Language** -Machine Language, Assembly Language
2. **Mid Level Language -**C, C++, JAVA, Forth, Dbase, WordStar etc.
3. **High Level Language** -Fortran, Basic, Pascal, Cobol, Visual Basic, Java, Oracle, Python etc.
4. **Very High Level Language-** 4GL

**POPULAR LANGUAGES IN PARTICULAR SECTORS**

**1.Web development:**

* **JavaScript**: JavaScript is the undisputed king of web development. It's used for both front-end and back-end development (Node.js). Frameworks like React, Angular, and Vue.js are popular for building interactive web applications.
* **HTML/CSS:** While not programming languages in the traditional sense, HTML and CSS are essential for web development. HTML structures web content, and CSS styles it for presentation.
* **Python:** Python is also widely used in web development, with frameworks like Django and Flask. It's known for its simplicity and readability.

**2.Game Development:**

* **C++:** C++ is a go-to language for game development, especially for high-performance games. It's used in conjunction with engines like Unreal Engine and game development libraries.
* **C#:** C# is popular for game development using the Unity game engine. Unity provides a user-friendly environment for creating both 2D and 3D games.
* **JavaScript:** (for Web Games): JavaScript, along with HTML5 and CSS, is used for browser-based games and web game development.

**3.Cyber Security:**

* **Python:** Python is commonly used in cybersecurity for tasks like penetration testing, scripting, and automation due to its versatility and extensive libraries.
* **C/C++:** Low-level languages like C and C++ are used for developing security tools and performing in-depth analysis of software vulnerabilities.
* **Java:** Java is used in enterprise-level cybersecurity applications, including secure network communications and access control.

**CONCLUSION**

"In summary, programming languages are the foundation of software development, adapting and evolving to meet the demands of technology. The choice of a programming language impacts project success, and staying abreast of language trends is crucial. Programming languages empower us to innovate and shape the digital future.