The Evolution of Programming Languages.

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. For example, if you give some set of instructions to add two numbers then the machine will do it for you and tell you the correct answer accordingly. But do you know that Programming Languages are having a long and rich history of their evolution? And with a similar concern, here in this article, we’ll take a look at the evolution of Programming Languages over the period.

In the computer world, we have about 500+ programming languages with having their own syntax and features. And if you type who’s the father of the computer, then the search engine will show you the result as to Charles Babbage but the father of the computer didn’t write the first code. It was Ada Lovelace who has written the first-ever computer programming language and the year was 1883.

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.

The device was made by Charles Babbage and the code was written by Ada Lovelace for computing Bernoulli’s number.

First time in history that the capability of computer devices was judged.

**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.

The first programming language to have a code block like “begin” that indicates that your program has started and “end” means you have ended your code.

**1959: COBOL**

It stands for COmmon Business-Oriented Language.

In 1997, 80% of the world’s business ran on Cobol.

The US internal revenue service scrambled its path to COBOL-based IMF (individual master file) in order to pay the tens of millions of payments mandated by the coronavirus aid, relief, and economic security.

**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.

It can be used in implementing an operating system, embedded system, and also on the website using the Common Gateway Interface (CGI).

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.

Some other programming languages that are popular among programmers are listed below.

YEAR OF RELEASE PROGRAMMING LANGUAGES FACTS

**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.

2011 Kotlin Kotlin is developed by JetBrains. It is used for making an android application.

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

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Evolution of Programming Languages.

In 2010, these were the top programming languages.

[Java](https://www.simplilearn.com/tutorials/java-tutorial/what-is-java) and [JavaScript](https://www.simplilearn.com/tutorials/javascript-tutorial/introduction-to-javascript) were the clear favorites, with PHP just behind. C++, C, Python, and C# clustered just below.

In 2015, the popularity rankings had changed.

While Java and JavaScript remained at the top, Python had moved up to displace PHP for third place. The cluster just below became PHP, C#, C++, and C. Notably, R, a language for statistical computing, entered the top ten, reflecting the increasing importance of data analysis and data mining. Objective-C, a language for Apple platforms, was joined by Swift, a newer Apple language.

By 2019, the rankings had changed again.

Now Python is the most popular language, with JavaScript overtaking Java into second place. The rankings below the top three are no longer clustered: there is a clear preference order between C#, PHP, C++, and C. Swift and Objective-C fell behind R.

Let’s look at the top programming languages:

1. Python
2. Java
3. Javascript
4. C#
5. PHP
6. C++
7. C
8. R
9. Swift
10. Objective C

And many others just didn't become as popular as the rest. It took years for these languages to reach this level, with many enhancements and useful features added to it.

## Evolution of Programming Languages

### **1. Python**

Writing code, in many of the programming languages on this list, is complicated even for professional programmers. Created in 1991, [Python](https://www.simplilearn.com/mobile-and-software-development/python-development-training) became so popular because it's a very user-friendly language. It is a high-level programming language with an emphasis on code readability, vast libraries, and framework. Some of the noteworthy features of Python are:

* Open-source programming language
* Extensive support modules and community development
* Easy integration with web services
* User-friendly data structures
* GUI-based desktop applications

### **2. Java**

On the other hand, Java, another high-level programming language that was developed in the 1990s, is the most popular among modern programmers. [Java](https://www.simplilearn.com/mobile-and-software-development/java-javaee-soa-development-training) was initially developed for cable boxes and hand-held devices. However, it has upgraded so much that today, it is almost everywhere, from the World Wide Web to smartphones to computers. It is one of the best programming languages and is widely used today after Python.

### **3. JavaScript**

[JavaScript](https://www.simplilearn.com/mobile-and-software-development/javascript-development-training) is the next most popular programming language which built the internet. Created in just ten days in 1995, it is a feature-rich, object-based scripting language. It is one of the most used programming languages even today, and almost all the websites on the internet today are built on JavaScript. It has gone through a massive update and modernization over the last few years. The major JavaScript releases have added a lot of modern features, and the JavaScript today has vast differences compared to the Javascript of the previous decade.

### **4. C#**

The evolution of programming languages continues with each passing year. [C#](https://www.simplilearn.com/c-sharp-programming-for-beginners-article), created by Microsoft, is known as one of the highly powerful programming languages in the Dot NET framework. It is an adaptable language that gives a comprehensive programming foundation that applies to Java, Objective-C, PHP, and more.

### **5. PHP**

PHP, similar to Python, is another programming language developed by a single programmer as a side project during the 90s. Over time, more functionality was added to the [PHP product](https://www.simplilearn.com/why-learn-php-article), and it evolved into a full-fledged programming language. However, PHP seems to be losing its popularity and appeal with the rise of JavaScript.

### **6. C++**

Inspired by C, Bjarne Stroustrup initially developed C++ as an extension to the C language. Although, over time, [C++](https://www.simplilearn.com/c-plus-plus-programming-for-beginners-article) has evolved into a multi-model, general-purpose programming language. It is mostly used in Microsoft products and desktop applications. Over the last decade, C++ has grown into one of the most well-known and widely used programming languages.

### **7. C**

During the 1969–1973, Dennis Ritchie, a Bell lab engineer, developed a procedural, general-purpose programming language that directly compiled to a machine language. It has also easily influenced most of the other languages on this list. The [C Programming Language](https://www.simplilearn.com/c-programming-article) gives the programmer complete control over the underlying hardware.

### **8. R**

R is another widely-used programming language used for building statistical software as well as data analysis by statisticians and data miners. [R programming language](https://www.simplilearn.com/big-data-and-analytics/data-scientist-certification-sas-r-excel-training), along with its libraries, executes a wide variety of graphical as well as statistical techniques.

### **9. Swift**

Swift is a general-purpose, compiled programming language that also offers high developer productivity. Swift was developed mainly to replace Objective-C in the Mac and iOS platforms. One of its USPs and the reason for its popularity is its language design. With a simpler, precise, and clean syntax as well as developer ergonomic features, it offers a more productive alternative to Objective-C in the Apple Ecosystem.

### **10. Objective C**

Initially developed in the early 1980s, Objective-C is a general-purpose, object-oriented programming language. It is a primary programming language generally used for writing software for OS X and iOS. Its syntax, primitive types, and flow control statements are assumed from C, and more syntax is added for defining classes and methods.

Programming languages have evolved a lot in the last 70 years, from creating some of the most challenging programs in assembly language to the most user-friendly python programs.

Over the last ten years, Simplilearn has kept up with the evolution of programming languages. We enable learners to acquire skills in the languages they need in their careers. We also offer courses to help programmers and developers to become project managers and development leaders. Invest your time and build your skills by learning new and improved programming languages to meet the demands of the ever-changing technological world.