The History of C Language (Evolution Over Years & All Versions of C Programming)

C is one of the most widely used programming languages in the world and has a rich history that dates back to the early 1970s.

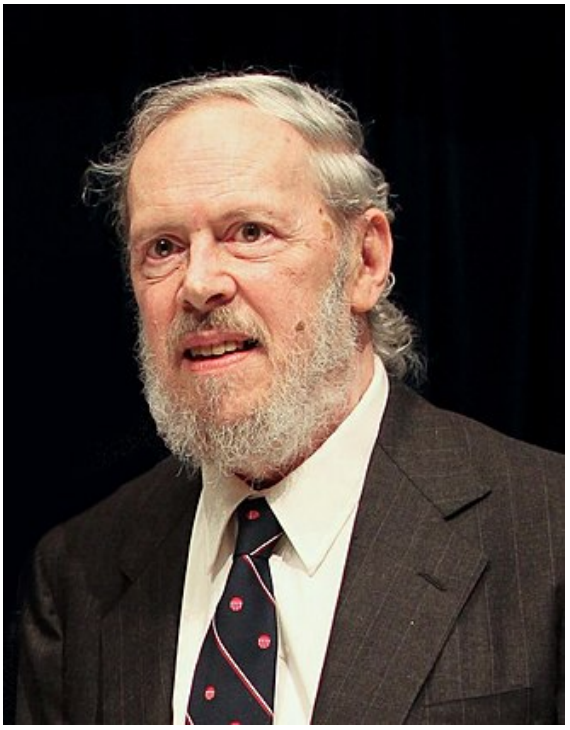
Over the years, C has evolved and undergone several changes, but it has remained one of the most popular programming languages for developing a wide range of applications, including system software, embedded systems, game development, and more.

In this article, we will delve into the history of C programming, covering its evolution, different versions over the years, and how it has impacted the world of computing. We will explore how C has shaped the way we write software and how it continues to play a critical role in the development of many important systems and technologies today.

History of C Programming Language

The history of C language dates back to the early 1970s, when Dennis Ritchie at Bell Labs developed the language.

Ritchie was working on the development of the Unix operating system, and they designed C as a system programming language to write the core components of the Unix operating system.



C was designed to be a high-level programming language that was easy to use and understand, while still being efficient and low-level enough to access the hardware directly.

The first version of C was called "*A System Programming Language*" and was released in 1972. The language quickly gained popularity and was used to write the Unix operating system and other system software.

In 1978, Brian Kernighan and Dennis Ritchie published a book titled "The C Programming Language", which is still widely used as a reference book for C programming today. The book defined the language's syntax and libraries and provided guidelines for writing efficient and readable code.

Over the years, C has undergone several changes and has been standardized by the International Organization for Standardization (ISO). The first standard for C was published in 1989 and was known as ISO/IEC 9899:1990. Since then, the standard has been updated several times, with the latest version being ISO/IEC 9899:2011.

In addition to its use in system programming, C has also been used in a wide range of applications, including game development, embedded systems, and more. The language has been used to write some of the most popular software in the world, including the Linux operating system and the popular web browser, Google Chrome.

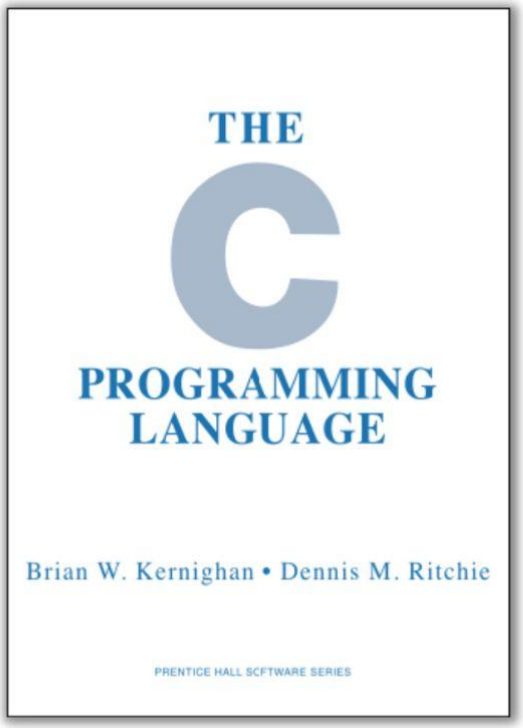
Today, C remains one of the most widely used programming languages in the world and continues to play a critical role in the development of many important systems and technologies. The history of C programming is a testament to its versatility, efficiency, and longevity, and it continues to be a cornerstone of modern computer science.

Summary of C Language History in Points

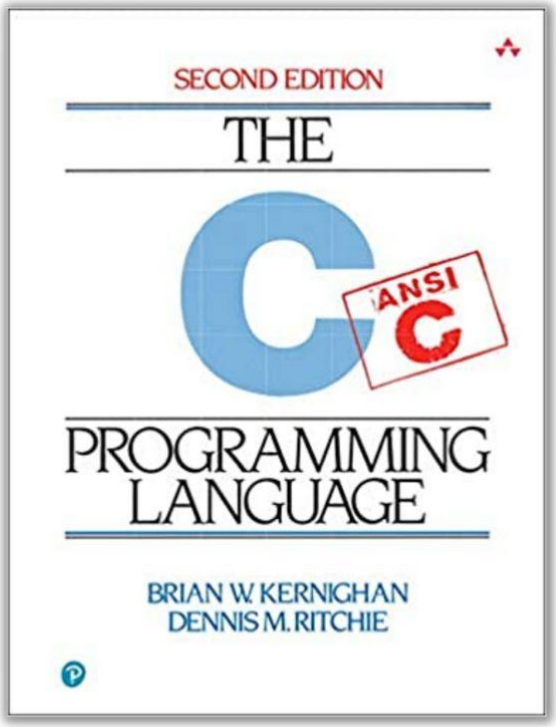
Designed or created by	Dennis Ritchie at Bell Labs
Year of origin	1972
First version release year	1972
Purpose of creating C language	Programming language for UNIX OS
The ‘C Programming Language’ Book	Published in 1978 by founders. Used as a reference book to date.
Standardization	ISO and ANSI standardized C language in 1989
First standard version	ISO/IEC 9899:1990
Latest standard version	ISO/IEC 9899:2011
Latest version of C	C 18

“The C Programming Language” Book

“The C Programming Language" is a seminal book in the field of computer programming that was first published in 1978 by Brian W. Kernighan and Dennis M. Ritchie. The book is widely regarded as the definitive guide to the C programming language and has been used as a textbook by generations of computer science students and professionals.



1st Edition



2nd Edition

The main objective of the book is to introduce the C programming language and provide a thorough understanding of its concepts, features, and syntax. It covers the fundamental concepts of the language, including:

- data types
- control structures
- functions
- pointers
- arrays
- structures

The book further provides numerous examples and exercises to help readers reinforce their learning.

The importance of "The C Programming Language" book lies in its concise and practical approach to the C language. The authors' writing style is clear and concise, and they provide a comprehensive overview of the language while avoiding unnecessary technical details.

This makes the book an ideal starting point for those new to C programming as well as a valuable reference for experienced C programmers.

There have been two editions of the book. The first edition, published in 1978, was a slim volume that introduced the basics of the language. The second edition, published in 1988, updated the original material to cover the C89 standard and added additional material on advanced topics such as input/output and libraries.

This book is an essential reference for anyone interested in learning or working with the C programming language. It is a testament to the lasting impact of the book that it remains relevant and widely used even after four decades since its first publication.

Why Was C Language Developed?

While knowing about the C programming history, you might wonder why was C language created. Here is your answer.

The C programming language was developed as a system programming language for the Unix OS. The goal was to create a high-level language that could be used to write low-level system software, such as operating systems and device drivers, that required direct access to hardware resources.

At the time, most system software was written in assembly language, which was difficult to understand, write, and maintain. C was designed to provide a higher-level, more readable, and more maintainable alternative to assembly language for system programming tasks.

Evolution of C Programming Over The Years

C has evolved over the years since its development in the 1970s. Here are some key milestones during the complete history of C programming language:

- Original C (1972)

The first version of C was developed by Dennis Ritchie at Bell Labs and was used to rewrite the Unix operating system and its utilities.

- K&R C (1978)

The first book on C, "The C Programming Language," was written by Brian Kernighan and Dennis Ritchie and became widely known as "K&R C." This version of C became widely used and formed the basis for the ANSI standard.

- ANSI C (1983)

The American National Standards Institute (ANSI) standardized C in 1983, defining a standard syntax and library that would be recognized and supported by all manufacturers and users.

- ISO C (1989)

The International Organization for Standardization (ISO) adopted the ANSI C standard in 1989, further promoting the language's portability and standardization.

- C89/C90

The ISO standard for C was often referred to as "C89" or "C90."

- ANSI/ISO C (1999)

In 1999, the ISO C standard was updated to include new features, such as improved type checking, function prototypes, and improved memory management. This updated version of the standard is often referred to as "ANSI/ISO C."

- C11 (2011)

In 2011, the ISO C standard was updated again, adding new features such as multi-threading support and atomic operations. This version of the standard is often referred to as "C11."

- C17 (2018)

The ISO C standard was updated again in 2018, adding new features such as improved support for multithreading and improved memory safety. This version of the standard is often referred to as "C17."

Throughout the history and evolution of C language, it has remained one of the most widely used programming languages in the world, due to its efficiency, versatility, and the vast body of existing code and libraries written in C.

Why Was C Language Standardized?

C was standardized by the American National Standards Institute (ANSI) and International Organization for Standardization (ISO) in 1983. The purpose behind it was to ensure the compatibility and portability of C programs across different computer systems and hardware platforms.

The standardization process aimed to define a common, standardized version of the language that would be recognized and supported by all manufacturers and users.

Prior to standardization, there were several different versions of C in use, each with slightly different syntax and libraries, which made it difficult for programs to be ported from one system to another. The ANSI standardization of C provided a single, widely accepted definition of the language, which allowed programs to be written and compiled on one platform and then run on other platforms without modification.

It had a major impact on the language, leading to its widespread adoption and greater portability of programs. Today, the ANSI standard remains the most widely recognized definition of C, and it is supported by most C compilers and libraries.

When Did C Programming Become Popular?

C programming became popular in the 1970s, shortly after its development. It quickly gained popularity among developers for its low-level access to memory and efficient execution.

Additionally, the ANSI standardized it later, which led to greater portability of programs and further fueled its popularity.

By the late 1970s and early 1980s, C had become one of the most widely used programming languages in the world, and its popularity has continued to this day.

Despite its age, C remains popular due to its efficiency, versatility, and the vast body of existing code and libraries written in C.

All Versions of C Language

Here is a table of the different C language versions and the year they were released:

Version	Year
C89	1989
C90	1990
C99	1999
C11	2011
C17	2018
C23	2023

It's worth noting that C89 and C90 are often referred to as C90 and are essentially the same standard.

C11 is a minor revision to the C99 standard, and C17 is a minor revision to the C11 standard. These revisions primarily focused on adding new features and improving the standard library.