



## **The Java Language Specification Java SE 8 Edition**

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## Introduction

To fully understand the java, we need to know the history and old language (c, c++ etc.) from which java is inherited.

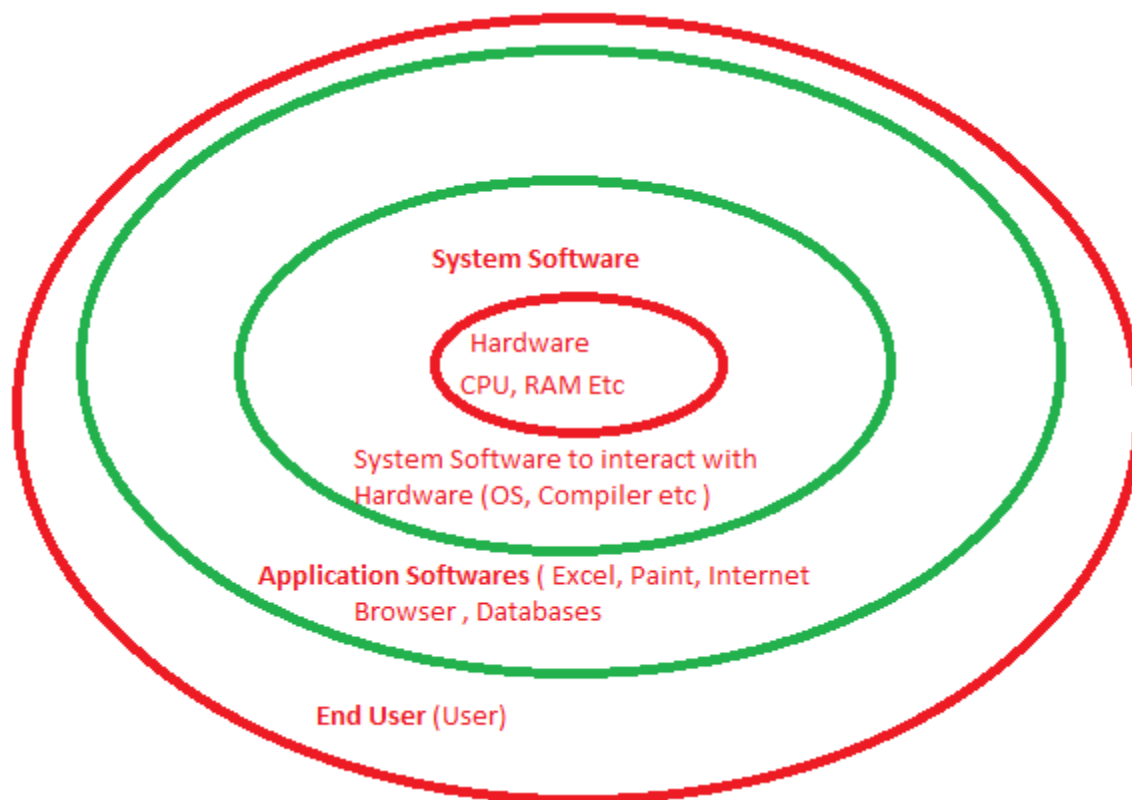
Java is inherited from c++ which is inherited from c. Most of the syntax of java taken from c and c++.

## Modern Programing Era

**C Programing Language:** This is first is high level programing language that shock the programing world with their functionality, efficient and high-level language.

It could replace assembly programing with c programing for creating system programs.

Difference between application software and system software.



## Prior of C language

**FORTRAN** could be good to write efficient code for scientific application, but it was not very good system application. While FORTRAN was an impressive first step.

**BASIC** was easy to learn but it wasn't more powerful to create efficient code due to lack of structure for large program.

**Assembly** language can be used to produce highly efficient program, but it is not easy to learn.

**Note** COBOL, BASIC and FORTRAN were not designed around structure principles, they mainly relied upon GOTO as primary means of control.

**GOTO** create a mass of tangled jumps in program that makes impossible to understand.

**PASCAL** was a structured language, but they were not designed for efficiency and failed to include necessary feature for wide range of application, and it was not good for system-level code.

### C Language

- And in Modern era no longer were computers kept behind locked doors due to rapid changes in technologies and computer languages.
- C Invented by Dennis Ritchie in 1972 at bell laboratories of AT & T (American Telephone & Telegraph), located in USA. C was result of a development process that started by Ken Thompson called B language in 1970. B was result of a development process that started by Martin Richards called BCPL language in 1967.
- For many years C was used in UNIX OS. And it inherits many features from B and BCPL etc.
- C was formally standardized in Dec 1989, when ANSI (American National Standards Institute) standard for c was adopted.
- C language was a powerful, efficient and structured language that solve most of the problem that earlier language had.
- C become the dominant computer language between 1970 -1980 and it is still widely used today.

**Conclusion** Prior of c, no one language had reconciled the conflicting attributes that had dogged earlier.

### The Next Step C++

As already we see that that most of problem was solved by c and it is successful useful language, but programming language is kept on developing to reduce the complexity.

When first computer was invented, programming was done by manually toggling in the binary machine instruction by use of front panel. The journey of Machine level code to high level language code has been reduced complexity.

In 1970-9080's many projects were pushing the structured approach and structured languages enabled programmers to write, for the first time complex and moderate programs. Once a project reaches a certain size, its complexity exceeds what a programmer can't manage in structured programming. To solve this complexity a new way to program was invented called (OOP) object-oriented programming.

OOP that helps to manage complex programs by the OOP feature (Inheritance, encapsulation etc.)

C++ is object-oriented programing language that enabled feature to solve complexity at the threshold(once size of program exceeds a certain point) point in c program what a programmer can't manage the complexity.

C++ become the dominant computer language between 1980-1990.

