Table of Contents

[Differences between Java, C and C++ 2](#_Toc64351754)

[Static and dynamic programming language 2](#_Toc64351755)

[Pre-Processor is required in C and C++, but not required in Java 2](#_Toc64351756)

# Differences between Java, C and C++

## Static and dynamic programming language

As we know that there are two types of programming language:

Dynamically typed programming language

Statically typed Programming Language

C and C++ are static programming languages, but Java is a dynamic programming language.

**Static programming language**

If any programming language allows memory allocation for primitive data types at compilation time then that programming language is called as static programming language (examples C and C++).

In C and C++ applications memory will be allocated for primitive data types at compilation time and not at runtime (off course In C and C++, calloc () and malloc () functions allows dynamic memory allocation, but in general C and C++ applications are static programming language).

**Dynamic programming language**

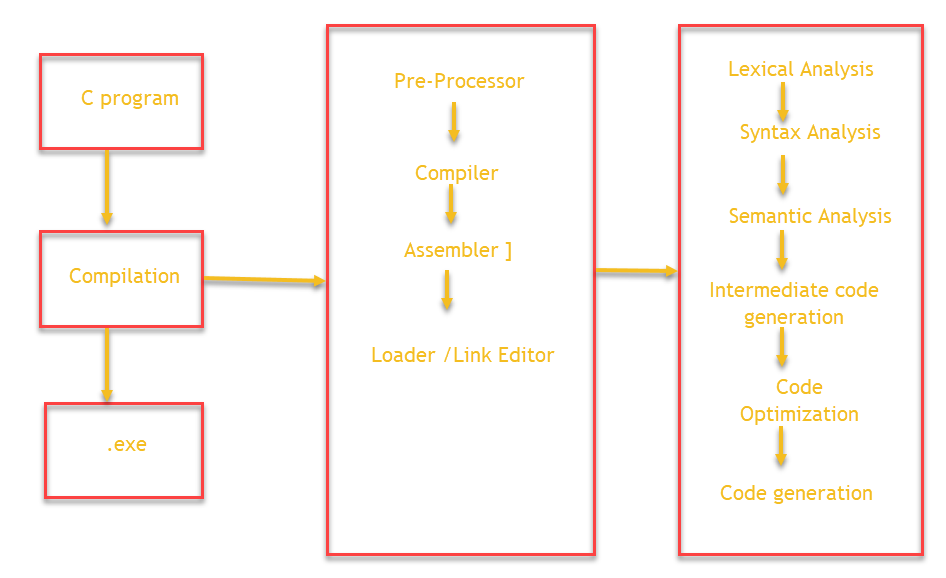
If any programming language allows memory allocation for primitive data types at run time then that programming language is called as dynamic programming language (example Java).

In Java applications, memory will be allocated for primitive data types at runtime only.

In Java memory is allocated for objects at runtime only, which means that memory is allocated for primitive types at run time only and not compilation time

## Pre-Processor is required in C and C++, but not required in Java

What is pre processor and where it is located.



Job of preprocessor:

In C, we use header files in application

#include <stdio.h>

#include <math.h>

Preprocessor will recognize all #include statements in the C++ application.

It will check take all header file names from #include

It will search for specified / required header files in C and C++ software’s,

if the specified header files are not present then error will be generated

if the specified header files exists then preprocessor will load all the required libraries.

Preprocessor will load all the specified header files to the memory.

Conclusion: Loading pre-defined libraries at compilation time is called static loading.