

* JAVA *

Introduction

The set of instructions written by using different programming languages such as C, C++, C# (C sharp), JAVA, Python... etc. To perform various operations of banking, gaming, social media, etc. are known as programs.

→ The set of programs put together forms software / App / Application / product / project / tool / built; etc.

→ Java is a programming language which is used extensively than that of other programming languages due to its wide range of features.

Features of Java

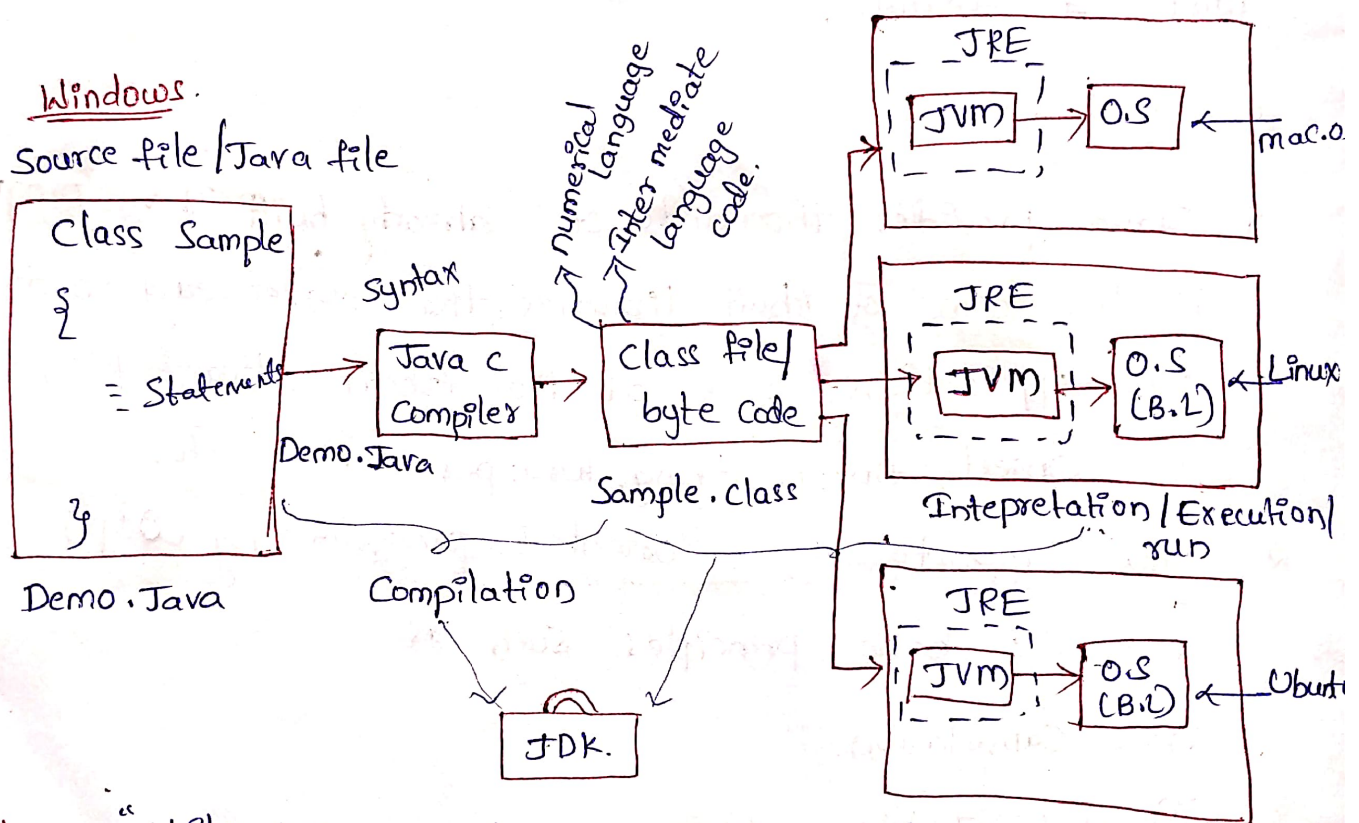
1. Java provides thousands of already built Java programs in the form of inbuilt libraries that makes easy to develop other applications. Some of the inbuilt library programs are Object, Array, String, wrapper classes, etc.
2. Java supports object oriented programming (Oop) and its basic principles such as
 - i) Encapsulation.
 - ii) Inheritance.
 - iii) Polymorphism.
 - iv) Abstraction.
3. Java is platform independent language (or) Architecturally neutral. Java program written in one platform can be executed in any other platforms.

Note :- Any programming languages Consisting of english

Alphabets & digits, special symbols, which can't be understood by the machine. Hence, we need the translator softwares to perform the translation b/w them. To develop the application we have two translators in the market such as

1. Compiler (performs translation known as compilation)
2. Interpreter (performs translation known as interpretation).

How Java is Platform independent language



Note :- "Write once, execute any no. of times." → Java programming.

O.S → operating system.

B.L → Binary Language.

JVM → Java Virtual Machine.

JRE → Java run time Environment.

JDK → Java development kit.

To execute a Java program we need to use both the translations such as -

1. Compilation :-

The source file is translated into the class file by JavaC only if the program is according to the syntax (format of the program).

→ The class file obtained consisting of numeric language which can neither be understandable by the programmer nor even by the machine. Hence, it is known as Intermediate language code.

2. Interpretation / Execution / Run :-

The class file can only be understandable by the JVM & it is platform dependent (∵ JVM is created based upon the different operating systems). Due to this a class file created from one particular platform can be executed in any other platform.

Structure of Java program

```
class ClassName { // Begin of class block public
```

```
    public static void main (String [] args).
```

```
    {
```

```
        statements;
```

```
        ...
```

```
    }
```

```
} // End of class block.
```