History of Java

- Java was developed by James Gosling and his team (So called Green Team) in the year 1995.
- The characters of Java is inherited from C and C++ language
- The basic idea behind creating this language is to create a platform-independent language that is used to develop software for consumer electronic devices such as microwave ovens, remote controls, etc. Initially, it was not designed for Internet applications.
- Earlier other languages like C, C++ are used to serve this purpose but the drawback of them is platform-independent, as the code generated from specific platform (including hardware and os) may not compatible on other platforms. Let us take the example of C++, it is possible to compile C++ code for any processor but to do so it requires a full C++ compiler targeted for that particular processor and platform. That makes it expensive and time-consuming.
- To overcome this, Gosling and others started working on a portable and platform-independent language, this leads to the creation of Java.

Features

Simple

Java is simple to learn as it is similar to C++ style of programming. There is no concept of pointers and memory management will be taken care by Garbage Collector (GC).

Object-Oriented

Java is Object Oriented Language, everything in java is an Object. So, software application is combination of different types of Objects, it has state and behavior. Features of OOP's are

Object, Class, Encapsulation, Abstraction, Polymorphism, Inheritance etc,..

Portable

Java Byte code is architectural neutral and the generated byte code can run on any platform.

Platform independent

Java follows the philosophy of WORA (Write Once and Run Anywhere), which means the generated byte code can be run on any platform. (here platform means combination of hardware (processor) and software (os)

Secured

With java we can develop virus free applications/software. It is virus because there is no concept of pointers and java programs run inside JVM's sandbox environment. (In case of C/C++ uses run time environment of OS).

Robust

It has own memory management which in turn efficiently uses memory and automatic garbage collection of objects.

Architecture neutral

Java doesn't care of platform and there are no dependent features implemented.

For example, in case of C language int takes 2 bytes on 32-bit processor and 4 bytes on 64-bit processors. But in case of java the size it is fixed (4 bytes).

Interpreted

Bytecodes in java is translated on the fly to native machine instruction.

High Performance

When compared with compiled programming languages are much faster when compared with interpreted languages but in case of java achieves performance with the help of JIT compilers of JVM.

Multithreaded

A Thread is a very light-weighted process, or we can say the smallest part of the process that allows a program to operate more efficiently by running multiple tasks simultaneously. With multithreading we can utilize resources in better way.

Distributed

With java we can create distributed applications with the help of RMI and EJB and access these applications from any machine on the internet.