**History of Java**

 Java is a general purpose, object –oriented programming language developed by Sun Microsystems of USA in 1991. Originally it was called OAK by **James Gosling**, one of the inventors of the language; java was designed for the development team to make the language simple, portable and highly reliable. The java team which included Patrick Naughton discovered that existing languages like C and C++ had limitations in terms of both reliability and portability. However they modelled their new language Java on C and C++ but removed a number of features of C and C++ that were considered as sources of problems and thus made Java a really simple, reliable, portable and powerful language. These are the important milestones in the development of Java.

\*. 1990:- Sun Microsystems decided to develop special software that could be used to manipulate consumer electronic devices. A team of Sun Microsystems programmers headed by James Gosling was formed to undertake this task.

\*. 1991:- After exploring the possibility of using the most popular object oriented language C++, the team announced new language named **Oak.**

\*. 1992 :- The team, known as Green Project team by Sun , demonstrated the application of their new language to control a list of home appliances using a hand held device with tiny touch sensitive screen.

\*. 1993:- The WWW appeared on the internet and transformed the text-based internet into a graphical rich environment. The Green Project team came up with the idea of developing Web Applets (tiny programs) using the new language that could run on all types of computers connected to internet.

\*. 1994:- The team developed a web browser called “Hotjava” to locate and run applet programs on internet. Hotjava demonstrated the power of the new language, thus making it instantly popular among the internet users.

\*.1995:- Oak was renamed “Java”, due to some legal problems. Java is just a name and is not an acronym.

\*1996:- Java established itself not only as leader for the Internet programming but also as a general purpose, object oriented programming language.

**Main Features of Java**

1. **Compile and interpreted**:- Usually, a computer language either compiler based or interpreter based. Java combines those approaches thus making Java is two stage systems. Firstly, Java compiler translates source code into Byte code instructions. Byte code instructions are not machine instructions and therefore, in the second stage, Java interpreter generates ‘Machine code’ that is running by the Java program. So, we can say that Java is both a compiler based as well as interpreter based language.
2. **Platform independent and portable**: - The most significant contribution of Java over other languages is portability. Java programs can be easily moved from one computer system to another, anywhere. Changes and upgrades in operating system, processors and system resources will not force any changes in Java program. This is the reason why Java has become a popular language for programming on internet, which interconnects different kinds of system world wide. Java ensures portability in two ways. First, Java compiler generates byte code instructions that can be implemented on any machine. Second, the size of data types (inbuilt data types) are machine independent. That is why Java is more portable language than other high level object oriented languages.
3. **Object oriented**: - Java is a true object oriented language. Almost every thing in Java is an object. All programs code and data reside within objects and classes. Java comes with an extensive set of classes, arranged in packages that we can use in our programs by inheriting it. The object model in Java is simple and easy to extend.
4. **Secure :**- Security becomes an important issue for a language that is used for programming on Internet. Threat of viruses and abuse of resource is everywhere. Java systems not only verify all memory access but also ensures that no viruses are communicated with an Applet. The absence of pointer in Java ensures that programs can not gain accessed to memory locations without proper authorization.
5. **Distributed: -** Java is designed as distributed language for creating applications on network. It has the ability to share both data and programs. Java application can open and access remote object on internet as easily as they can do in local system. This enables multiple programmers at multiple places and work together on a single project.
6. **Simple, small and Familiar**: - Java is a small and simple language. Many features of c and c++ that are either complex or sources of unreliable code are not part of Java. As for example, Java does not use pointers, pre-processors, header files, goto statement and many others. It also eliminates operator overloading and multiple inheritance of C++. Familiarity is another striking feature of Java. To make the language look familiar to the existing programmers. It was modelled on C and C++ codes. So, we can say Java is simple, small and familiar language.
7. **Multithreaded and interactive**: - Multithreaded means handling multiple tasks simultaneously. Java supports multithreaded program this means that we need not wait for the application to finish one task before beginning of another. E.g:- We can listen any audio clips while scrolling a page or working with a document. This feature greatly improves the interactive performance of graphical applications.

**Dynamic and extensible**: - Java is a dynamic language. Java is capable of dynamically linking a new class libraries methods and objects. Java can also determine the type class through query making it possible to either dynamically linked or abort the program depending on the response. Java program supports functions written in another language. Such as C and C++. These functions are known as native methods. Native methods are linked dynamically at run time.