Java Features/Buzz words

The Java programming language is a high-level language that can be characterized by all of the following buzzwords:

->Simple
->Object oriented
->Distributed
->Interpreted
->Robust
->Secure
->Architecture neutral
->Portable
->High performance
->Multithreaded
->Dynamic
->Platform Independent

Simple:Java was designed to be easy for professional programmer to learn and use effectively. Its simple and easy to learn if you
already know the basic concepts of Object Oriented Programming. C++ programmer can move to JAVA with very little effort to learn. In
Java, there is small number of clearly defined ways to accomplish a given task.

Object Oriented:Java is true object oriented language. Almost Everything is an Object paradigm. All program code and data reside
within objects and classes. The object model in Java is simple and easy to extend. Java comes with an extensive set of classes,
arranged in packages that can be used in our programs through inheritance.

Distributed:Java is designed for distributed environment of the Internet. Its used for creating applications on networks. Java
applications can access remote objects on Internet as easily as they can do in local system. Java enables multiple programmers at
multiple remote locations to collaborate and work together on a single project.

Compiled and Interpreted:Usually a computer language is either compiled or Interpreted. Java combines both this approach and makes
it a two-stage system.
Compiled : Java enables creation of a cross platform programs by compiling into an intermediate

representation called Java Bytecode.
Interpreted : Bytecode is then interpreted, which generates machine code that can be directly executed by the machine that provides
a Java Virtual machine.

Robust:It provides many features that make the program execute reliably in variety of environments. Java is a strictly typed
language. It checks code both at compile time and runtime. Java takes care of all memory management problems with garbage-collection.
Java, with the help of exception handling captures all types of serious errors and eliminates any risk of crashing the system.

Secure:Java provides a firewall between a networked application and your computer. When a Java Compatible Web browser is used,
downloading can be done safely without fear of viral infection or malicious intent. Java achieves this protection by confining a
Java program to the java execution environment and not allowing it to access other parts of the computer.

Architecture Neutral:Java language and Java Virtual Machine helped in achieving the goal of write once; run anywhere, any time,
forever. Changes and upgrades in operating systems, processors and system resources will not force any changes in Java Programs.

Portable:Java Provides a way to download programs dynamically to all the various types of platforms connected to the Internet. It
helps in generating Portable executable code.

High Performance:Java performance is high because of the use of bytecode. The bytecode was used, so that it was easily translated
into native machine code.

Multithreaded:Multithreaded Programs handled multiple tasks simultaneously, which was helpful in creating interactive, networked
programs. Java run-time system comes with tools that support multiprocess synchronization used to construct smoothly interactive
systems.

Dynamic:Java is capable of linking in new class libraries, methods, and objects. It can also link native methods(the functions
written in other languages such as C and C++).

Platform Independent:A platform is the hardware or software environment in which a program runs.There are two types of platforms
software-based and hardware-based. Java provides software-based platform.The Java platform differs from most other platforms in the
sense that it is a software-based platform that runs on the top of other hardware-based platforms. It has two components:
Runtime Environment
API(Application Programming Interface)
Java code can be run on multiple platforms e.g. Windows, Linux, Sun Solaris, Mac/OS etc. Java code is compiled by the compiler and
converted into bytecode. This bytecode is a platform-independent code because it can be run on multiple platforms i.e. Write Once
and Run Anywhere(WORA).