Features of Java

- *Java is simple*

Java is very simple and easy to learn.

We can write java programs very easily.

To learn java no prior knowledge is required.

Most of the complex and confusing features of other languages(c, c++) like pointers ,multiple inheritance etc are removed from java.

- *Platform independent*

If we write java program once we can run on any platform .i.e.(WORA)

Write once run anywhere.(java programs can run on any os like windows, mac, linux etc)

- *Architecture-Neutral*

Changes and upgrades in os, processors and system resources will not force any changes in java programs.(hardware changes in a particular machine will not affect the code)

- *Portable*

We can carry the java byte code to any platform without making any changes.(It's like we want to migrate java program from windows machine to linux machine)

- *Secure*

Java program never communicate directly with the machine . First converted into bytecode and then converted into machine code by the JVM. If the bytecode contains any problem then JVM don't allow that program to run and will raise verify error. Inside JVM Bytecode verifier is responsible for verifying bytecode.

- *Java is object oriented programming language*

Most of the times in java we have to handle everything in terms of object.

Java support the following OOP features like Inheritance, Encapsulation, polymorphism ,abstraction etc.

- *Multithreaded*

Multithreading in Java refers to the concurrent execution of multiple threads within a Java program. A thread is the smallest unit of a program that can be executed independently, and multithreading allows you to write programs that can perform multiple tasks simultaneously. Java provides built-in support for multithreading through its `java. lang. Thread` class and the `java. lang. Runnable` interface.

Java is Robust

- ***strong memory management***

  Java is a robust programming language because it employs powerful memory management. In Java, the term "memory management" refers to the procedure of assigning and freeing memory for objects. Java automatically handles the memory management system.

- ***automatic garbage collection***

  The Java Virtual Machine automatically removes objects that appear to no longer be recognized by a Java application through the rubbish collection. In other statements, it is a method of disposing of unuseful objects.

- ***exception-handling***

  The **Exception Handling in Java** is one of the powerful *mechanism to handle the runtime errors* so that the normal flow of the application can be maintained.

- *Java is distributed*

Java is distributed because it facilitates users to create distributed applications in Java. RMI and EJB are used for creating distributed applications.

- *High Performance*

Java is faster than traditional interpretation since byte code is "close" to native code still somewhat slower than a compiled language (e.g., C++)