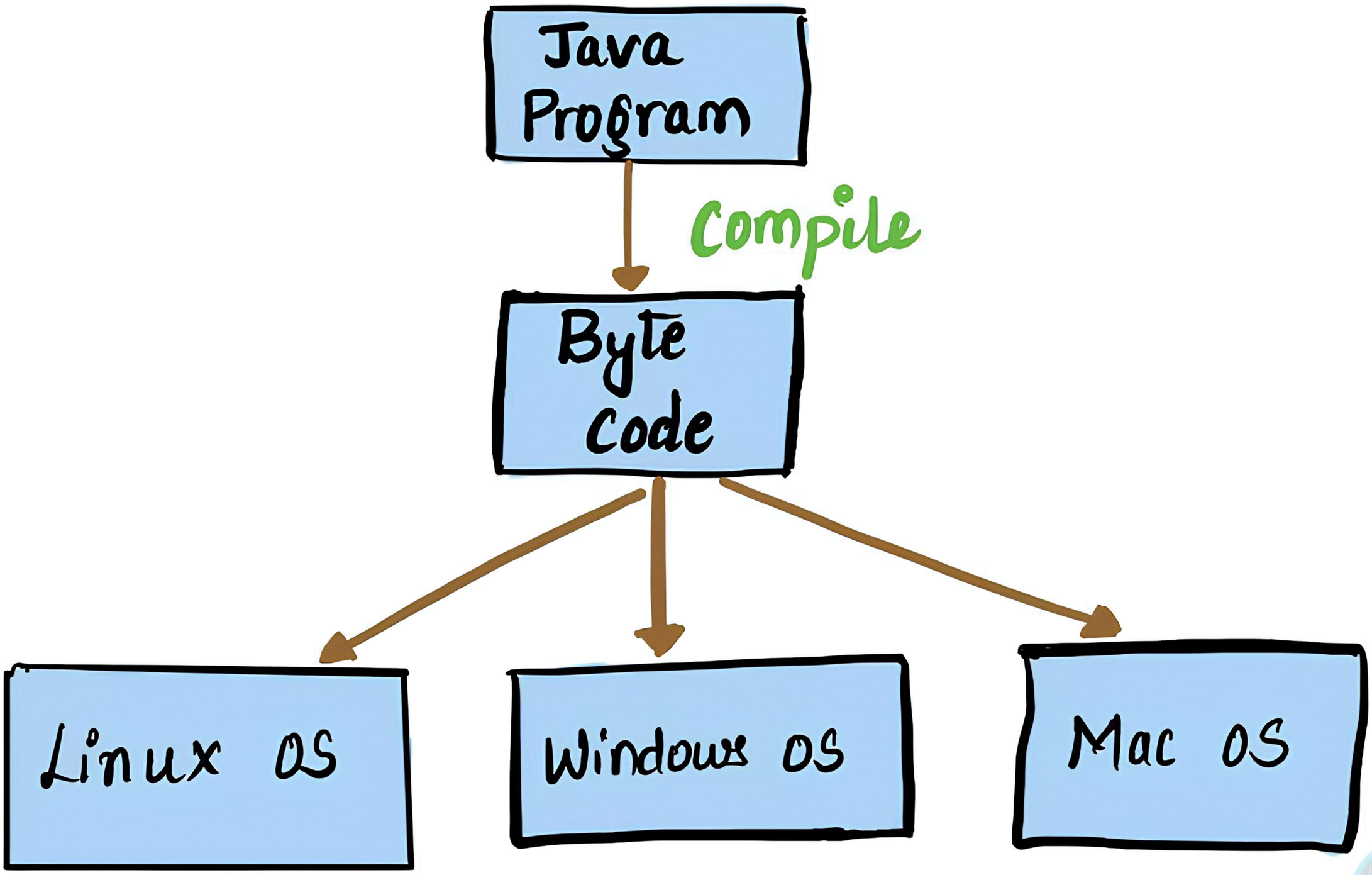
Java Notes For Beginners

Introduction of Java.

Java programming language is a high-level, object-oriented, General-purpose, and Secure programming language It is designed for the distributed environment of the internet. Java is freely accessible to users, and we can run it on all the platforms.
Java follows the WORA (write ones, Run Anywhere) principle and is platform-independent.

Java Platform Independent.



Features of Java

→ **Simple**: Java is Simple because its Syntax is Simple and easy to understand. Java eliminates many complex and ambiguous concepts of C++ for ex. the use of explicit pointers and operator over loading are not in java.

→ **Object-Oriented**: Everything in java is in the form of the object. in other words, it has some data and behaviour. A java program must have atleast one-class and object.

→ **Robust**: Java always tries to check errors at run time and compile time. Java uses a garbage collector to provide a strong memory management System. Features like exception handling and garbage-collection make java robust or strong.

→ **Secure**: Java is a Secure language, As java doesn't use explicit pointers. All java programs run in the virtual machine. Moreover, Java contains a security manager that defines the access levels of java classes.

→ **Platform-Independent**: Java provides a Guarantee that to write codes once and run it anywhere.

the compiled byte code is platform-independent, and we can run it on any machine irrespective of the operating System.

→ **Portable** :- We can carry the byte code of java to any platform. there are no implementation-dependent features in java. Java provides pre-defined information for everything related to storage, Such as the size of primitive data types.

→ **High performance**: Java provides high performance with the use of the just-in-time (JIT) compiler.

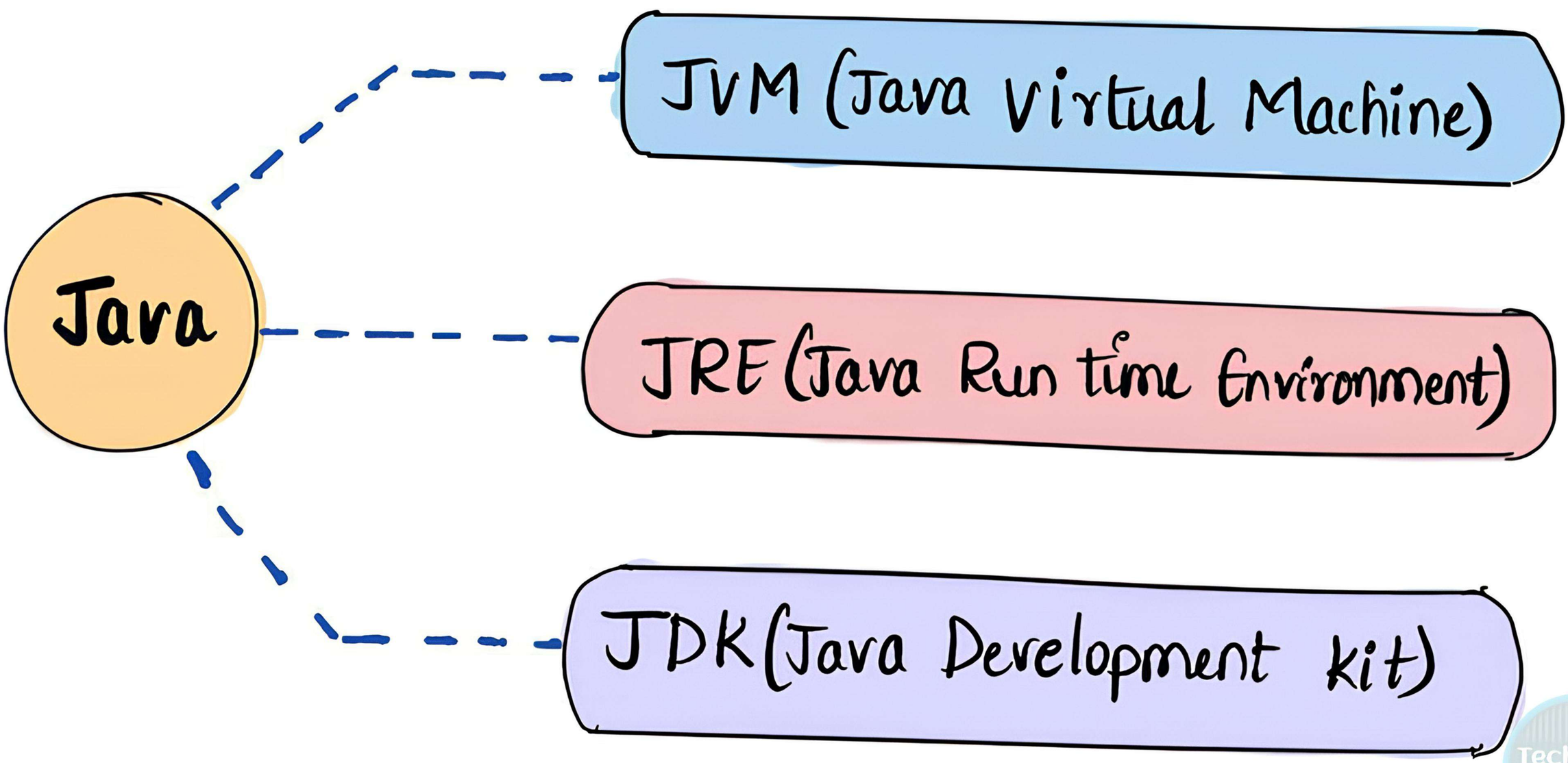
→ **Distributed** : Java is a distributed language as it provides networking facilities. Java works very well in the distributed enviroment of the internet. this because java Supports TCP/IP protocol. EJP (Enterprise Java beans) and RMI (Remote method invocation) of java are used to create a distributed System.

→ **Multi-Threaded**: Java is a multithreaded language as it can handle more than one job at a time.

Editions of Java.

1. **Java Standard Editions (SE):** We use this edition to create programs for a desktop computer.
2. **Java Enterprise Edition (EE):** We use this edition to create large programs that run on the server and to manage heavy traffic and complex transactions
3. **Java Micro Edition (ME):** We use this edition to develop applications for small devices such as set-top boxes, phones and appliances etc.,

Java Environment



Applications of Java Programming.

Java is wide spread language. The following are Some application areas in which we find Java usable.

- Desktop Applications
- Web Applications
- Mobile Applications (Android)
- cloud computing
- Enterprise Applications
- Scientific Applications
- Operating Systems
- Embedded Systems
- Cryptography
- Smart cards
- Computer Games
- Web Servers and application Servers.