Lesson Plan

Platform Independency in Java

PW SKILLS

List of Concepts Involved:

- Define Platform?
- Platform Dependency Vs Platform Independency
- Failure of C Language
- Success of Java

Platform:

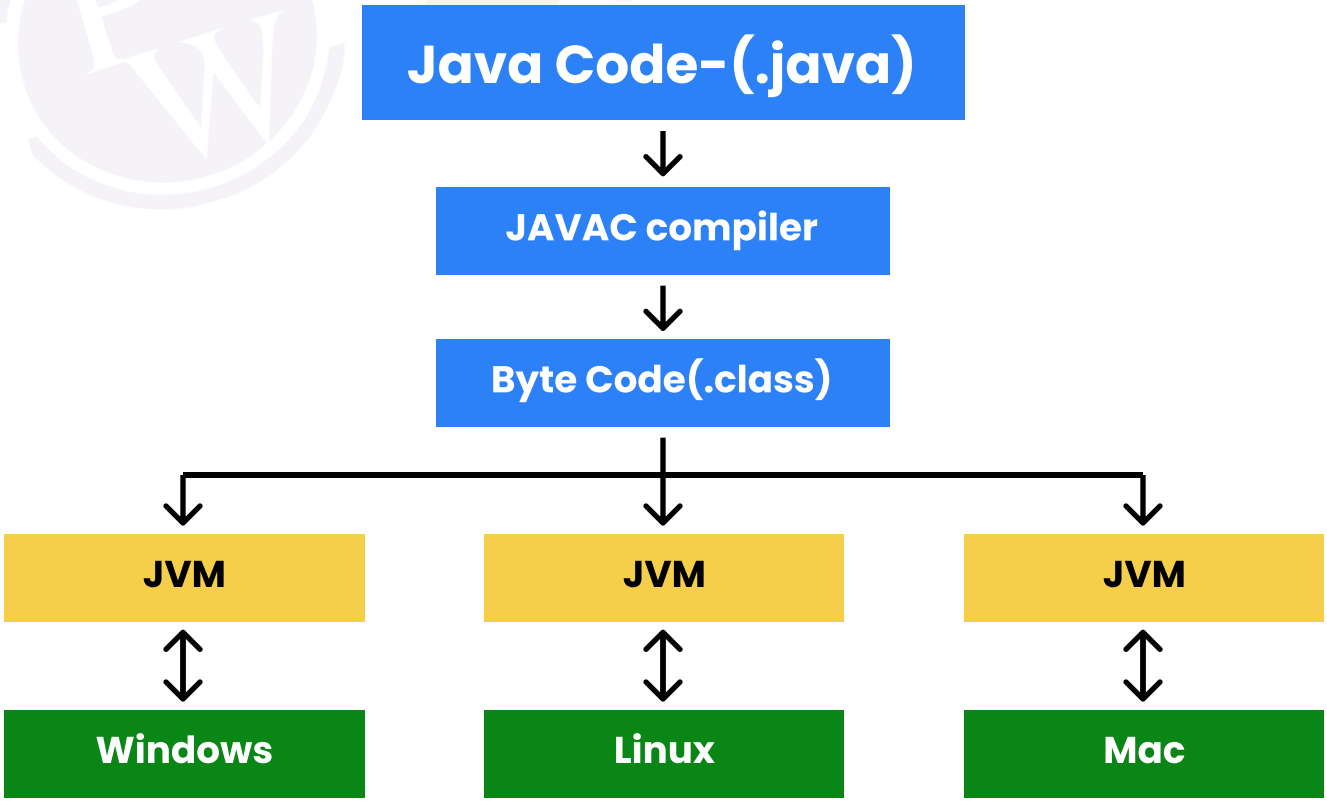
Definition: In computing, a platform refers to the combination of hardware and software on which applications run. It includes the operating system, hardware architecture, and other supporting libraries and frameworks. Platforms provide a foundation for the execution of software.

Platform Dependency vs. Platform Independency:

Definition:

Platform Dependency: A program is platform-dependent if it relies on specific hardware or software characteristics and cannot run on different platforms without modification.

Platform Independency: A program is platform-independent if it can run on different platforms without modification. This is often achieved through technologies like Java that use a virtual machine to abstract hardware differences.



Key Points:
Platform-dependent programs are tied to the characteristics of a particular platform, making them less portable.
Platform-independent programs are designed to be executed on various platforms without modification.

Failure of C Language:

Theory:

- While C is a powerful and widely used programming language, it has some limitations that contributed to its perceived failures in certain contexts.
- C lacks built-in support for object-oriented programming, making it less suitable for large-scale software development.
- Memory management in C requires manual handling, which can lead to memory-related errors.
- C does not provide strong abstractions for handling complex data structures and algorithms.

Success of Java:

Theory:

- Java addressed many of the limitations of C, making it successful in various domains.

Platform Independence: Java introduced the concept of a virtual machine (JVM), allowing Java programs to be platform-independent.

Object-Oriented: Java is designed as an object-oriented programming language, providing better organization of code and modular development.

Memory Management: Java features automatic memory management (garbage collection), reducing the risk of memory-related errors.

Rich Standard Library: Java includes a comprehensive standard library, simplifying common programming tasks.

Security: Java's design includes security features, making it suitable for networked and distributed computing.