SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107
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Department of Information Technology

19CS204 OBJECT ORIENTED PROGRAMMING

I YEAR /II SEMESTER

Unit 1- INTRODUCTION TO OOP

Topic 2: Java Features

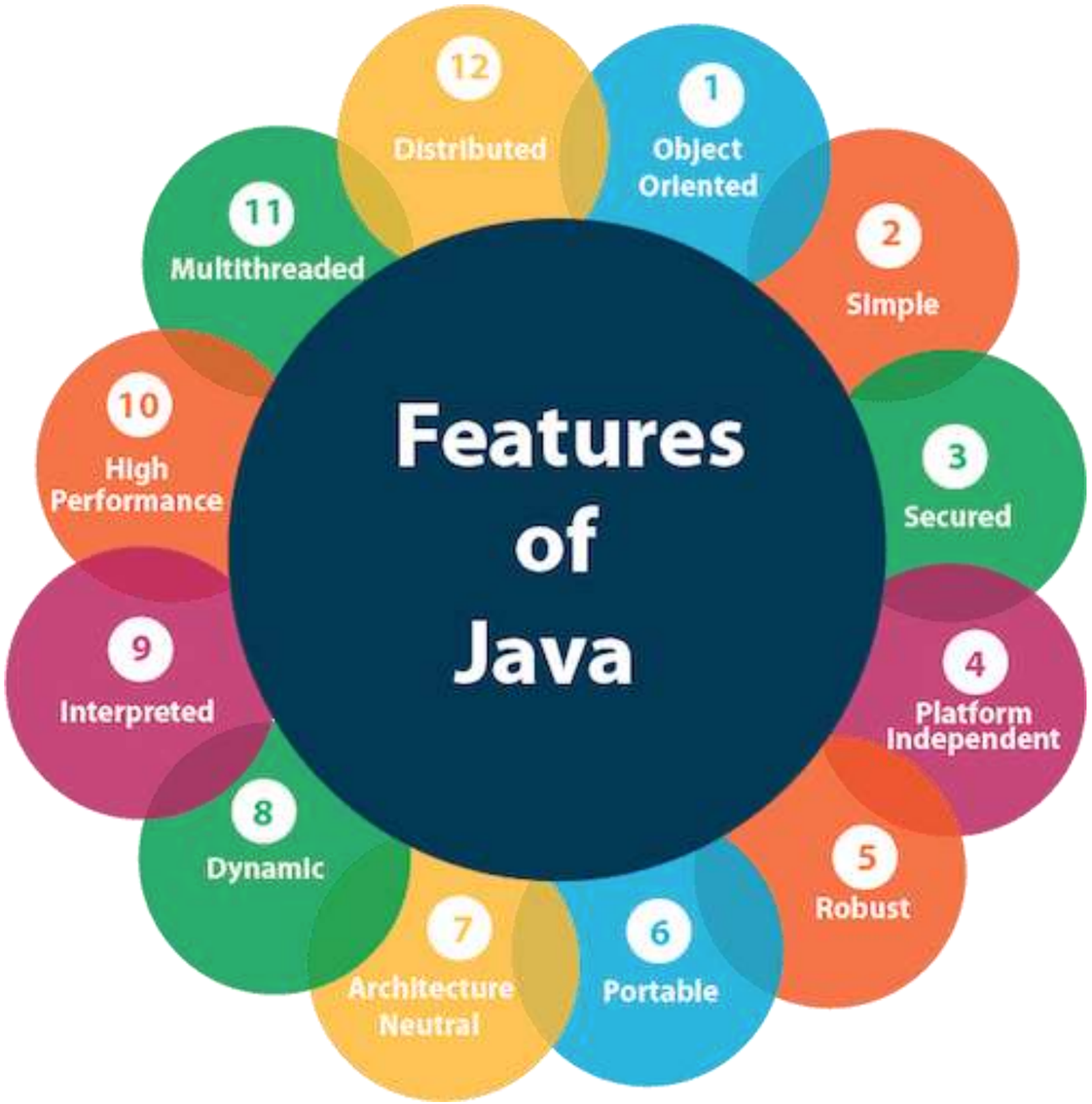
JAVA

- Initiated by James Gosling, Patrick Naughton and Mike Sheridan at Sun Microsystems, Inc. in 1991.
- James Gosling did primary contribution, so he called as father of Java language.
- This language was initially called “Oak,” but was renamed “Java” in 1995.
- First beta version released in 1995. Fully functional, public implementation of Java Version 1.0 released on 1996.
- Oracle acquired Sun Microsystems in 2009.
- Current version is Java 16

JAVA

- Java is an high level, object-oriented, class-based, platform independent, concurrent, secured and general-purpose computer-programming language.
- Java runs on a variety of platforms, such as Windows, Mac OS, and the various versions of UNIX and LINUX.
- It promised Write Once, Run Anywhere (WORA), providing no-cost run-times on popular platforms.
- One of the worlds most popular and widely used programming language.
- Java is used in internet programming, mobile devices, games, e-business solutions.

JAVA - Features

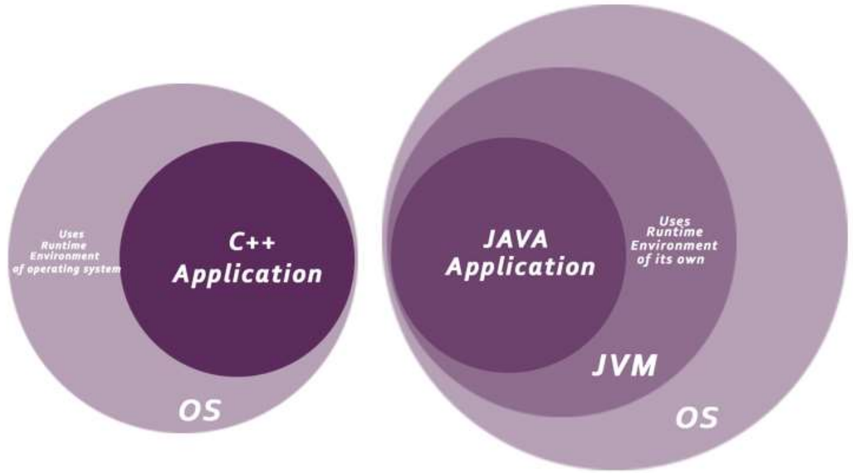


JAVA - Features

Object Oriented - Java is an object-oriented programming language. Everything in Java is an object.

Simple − Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.

Secure − Java provides security through JVM, Bytecode, Error detection in compiler, private keywords. No explicit pointers.



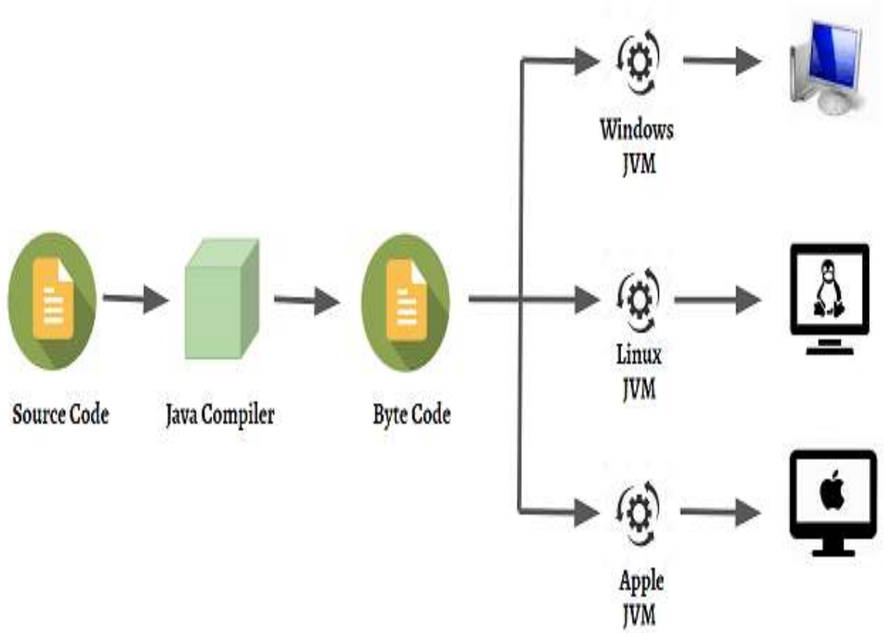
JAVA - Features

Platform Independent

- Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform independent byte code.

- This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.

- WORA

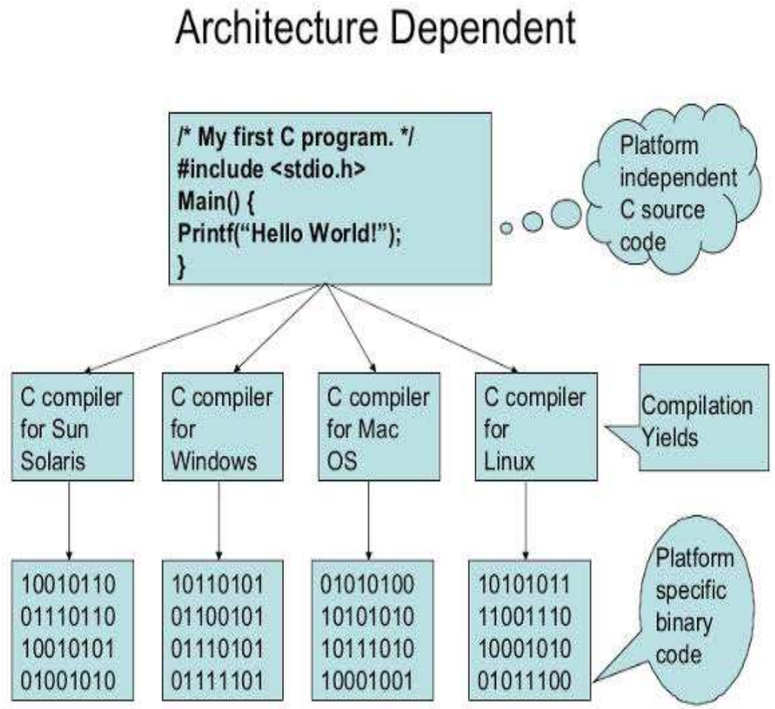


JAVA - Features

Architecture-neutral − Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.

Portable − Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable.

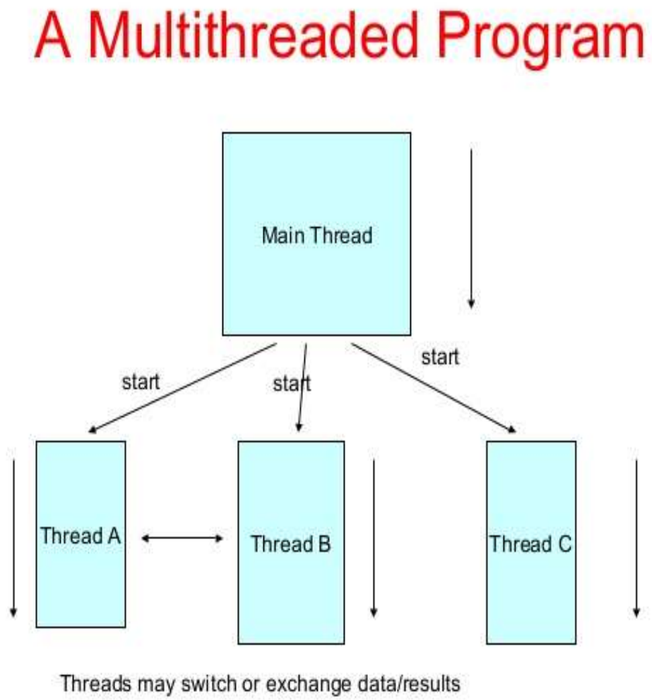
Robust − Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking. Memory management and deallocation of memory is easy.



JAVA - Features

Multithreaded − With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly.

Interpreted − Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light-weight process.



JAVA - Features

High Performance − With the use of Just-In-Time compilers, Java enables high performance.

Distributed − Java is designed for the distributed environment of the internet. RMI.

Dynamic − Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry extensive amount of run-time information that can be used to verify and resolve accesses to objects on run-time. On demand loading of classes

JAVA - Features

There are mainly 4 types of applications that can be created using Java programming:

- Standalone Application - Standalone applications are also known as desktop applications or window-based applications. These are traditional software that we need to install on every machine. AWT and Swing are used in Java for creating standalone applications. Example: Java SE 16

- Web Application - An application that runs on the server side and creates a dynamic page is called a web application. Currently, Servlet, JSP, Struts, Spring, Hibernate, JSF, etc. technologies are used for creating web applications in Java.

JAVA - Features

- Enterprise Application - An application that is distributed in nature, such as banking applications, etc. is called enterprise application. It has advantages of the high-level security, load balancing, and clustering. In Java, EJB is used for creating enterprise applications. Java EE.

- Mobile Application - An application which is created for mobile devices is called a mobile application. Currently, Android and Java ME are used for creating mobile applications.

THANK YOU