Java Class Notes

What is java?

-> java is a high-level programming language and a platform.

What is meant by high level language?

->A high-level language is a programming language designed to simplify computer programming. High-level source code contains easy-to-read syntax that is later converted into a low-level language, which can be recognized and run by a specific CPU. Most common programming languages are considered high-level languages.

Who Founded Java?

-> Java was created at Sun Microsystems, Inc., where James Gosling led a team of researchers in an effort to create a new language that would allow consumer electronic devices to communicate with each other.
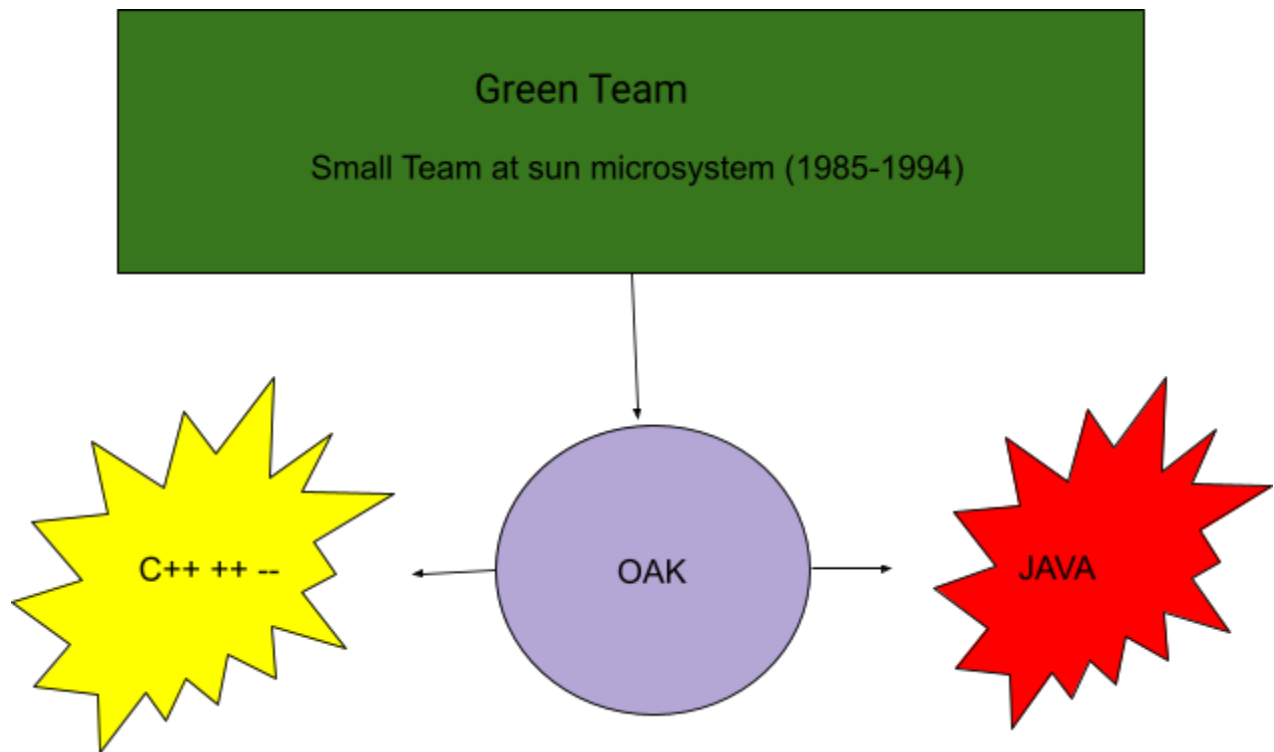
History:)

Oak: national plant of uk, Germany, Romania, french.

Java: java is an island in indonesia where coffee beans are produced(called as java)

Team Name: Green team

Head of The team: James Gosling

Important Terms:-

JRE - java Runtime Environment

JVM - java virtual machine

Javac - java Compiler

JDK - java Development kit

Application:-

According to Sun, 3 billion devices run Java. There are many devices where Java is currently used. Some of them are as follows:

1. Desktop Applications such as acrobat reader, media player, antivirus, etc.
2. Web Applications such as irctc.co.in, javatpoint.com, etc.
3. Enterprise Applications such as banking applications.
4. Mobile
5. Embedded System

6. Smart Card
7. Robotics
8. Games, etc.

Types of Java Applications:

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

1) 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. Examples of standalone applications are Media player, antivirus, etc. AWT and Swing are used in Java for creating standalone applications.

2) 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.

3) 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.

4) 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.

Java Platforms / Editions:

There are 4 platforms or editions of Java:

1) Java SE (Java Standard Edition)

It is a Java programming platform. It includes Java programming APIs such as java.lang, java.io, java.net, java.util, java.sql, java.math etc. It includes core topics like OOPs, String, Regex, Exception, Inner classes, Multithreading, I/O Stream, Networking, AWT, Swing, Reflection, Collection, etc.

2) Java EE (Java Enterprise Edition)

It is an enterprise platform which is mainly used to develop web and enterprise applications. It is built on the top of the Java SE platform. It includes topics like Servlet, JSP, Web Services, EJB, JPA, etc.

3) Java ME (Java Micro Edition)

It is a micro platform which is mainly used to develop mobile applications.

4) JavaFX

It is used to develop rich internet applications. It uses a light-weight user interface API.