Java Programming

* Java is an object oriented programming language (oops). It's developed by Sun Microsystems of USA in 1991.

It was originally called oak by James Gosling.

Feature of java:-

* Distributed → It facilitates users to create distributed application java. RMI and EJB are used for creating distributed application. This feature of java makes us usable to access field by calling the methods from machine on the internal.

* Multithread :- Java support multithreading. This means that java application can multiple tasks at the same time. This makes java application efficient.

* Object oriented :- Java is a fully object-oriented language. Everything in java is an object, which have some data and behaviours. This makes java code easy to understand and maintain.

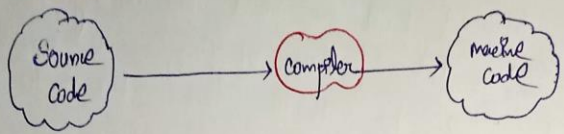
* Secure :- It is one of most secure programming language available. It has an in-built security feature that helps to prevent malicious code from running on the system.

* platform-independent :- It means that java code can be run on any platform that has a java virtual machine (JVM). This makes java a good choice for developing application that need to be portable across different platform.

* Robust → It's means that it is less likely to crash or produce errors than other programming language. This is due to a number of feature in the java language, such as garbage collection and exception handling.

* Portable :→ Java ensures portability in two ways. Firstly, java compiler generates bytecode instructions that can be implemented on any machine. Secondly, the size of the primitive datatype are machine independent.

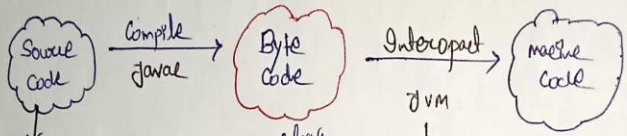
Java Architecture :→



.java .py .cpp

c++
.cpp → .exe

Java

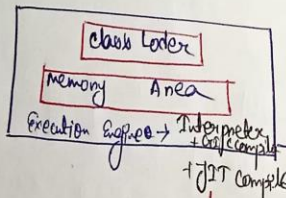


Windows

↳ Java virtual machine.

→ Compile one & Run Everywhere

⊙ JVM →



→ Garbage collection.

Just ~~Compile~~ in Time

↳ optimize performance of JVM.

* JVM stands for Java Virtual machine. It's a crucial component of the Java Runtime Environment (JRE) that executes Java byte code.

JRE (Java Runtime collection) → JRE = JVM + libraries.

JRE stands for Java Runtime Environment. It's a set of software tools that provides the runtime environment needed to execute java applications. It includes the JVM, libraries and other necessary components.

JDE (Java Development Environment) :→ JDE = JRE + Development Tools.

JDE typically stands for Java Development Environment, refers to the environment or set of tools used for development Java application.

Different b/w class and Structure :→

Topic	class	Structure
Inheritance	Inheritable	-nt Inheritable.
member	Private access by default	public access by default.
Null value	are possible	are nt possible.
Key word	class Keyword	Struct keyword.
Type	reference type	value type.
Initialize	Constructor and destructor	automatically
Example	class btm { int length; class text[0]; on click() { } }	Struct Student { } Data member. Data member member function

Basic Structure of a java programe :-

Package com. Company ; → Groups class

Public class Main → class name // class code.

Public → Accessibility

class → key use to declare a class

{

Public static void main (String args[]) {

Public → Access speiffier

static → keyword

void → return type

main → method name

args[] → array string type.

}

}

Naming Convensation :-

For class we use pascal convensation. First and subsequet character from a word are capitale letter.

Example :- Main, Myscanner, My Employee.

For functions and variable s, we use camelcase convention. Here first character is lower case and the subsequent character are upper like below;

main, myScanner, mymakes, Code With Harry.

variable :-

int numbers = 8.