

JAVA [JavaPoint Revision]

Topic 1 → Java Basics.

- ① → Java → platform indep, obj-oriented, concurrent lang.
→ can also be called as platform as it has a runtime environment (JRE) and API.

→ mobile, desktop (or standalone), web, Enterprise Applications

- ② Platforms of Java → Java SE, Java EE, Java ME & JavaFX
(Standard edition) (Enterprise) (Mobile)

More secure bcs runs inside JVM. & OS where C++ only inside OS.

- ③ Different from C++, as Java doesn't support:-

- i) Struct & Unions
- ii) Multiple inheritance
- iii) operator overloading
- iv) pointers & goto

✓) also #include not used
import used.

④ class Simple {
 ↑ return type
 ↑ program starting point
 public static void main (String args[]) {
 ↑ access modifier
 ↑ cmd line arguments
 System.out.println("Hello Java");
 }
}; → semicolon is optional. Same as String[] args.

- ⑤ → JDK → Java Development Kit (JRE + Dev tools).
JVM → Java Virtual Machine (loads, verifies & executes code).
JRE → Java Runtime Environment. (JVM + Lib + app tools)
JVM doesn't phy exist. Implem of JVM i.e JRE exists.

⑥ Variables

- Static var (static class → not obj or instance)
- instance var
- local var.

→ Data types

- Primitive (int, float, char, bool ... 8 in total)
- Non-Primitive (Arrays, Classes, Interfaces).

Java Programs given.

Topic 2 → Java Object Classes

① → Object → A real world entity such as pen, chair, etc.
(State + behaviours) (instance of class)

→ Class → Collection of obj, logical entity.

→ Inheritance → Child inheriting all props of parent class.

→ Polymorphism → one task performed many diff ways.
(Implem by method overriding & overloading).

→ Encapsulation & Abstraction explained clearly in Infosys Java.

② Sub topics

→ Coupling → Arises when classes are aware of each other. More info abt other class more the coupling.

Cohesion → highly cohesive → single well defined task.
Weakly cohesive → breaks task into multiple tasks.

Association → one to one, many to one, one to many, many to many. [unidirectional or bidirectional]

Aggregation → A way to achieve association.

represents when one obj contains other obj as part of their state.

Composition

→ has-a relationship.

① Introduction to Java.

a) → High level programming language. (Platform Independent) → i.e. no need for recompiling. JRE. Dev tools.

b) → Java (High lvl prog lang) → Compiler/Bytecode Interpreter → Binary lang (0s & 1s) } JDK used to execute all this.

c) → Install Java & an Java-IDE. (Eclipse or IntelliJ).

d) → In Java every method (even main()) must be present inside a class.

→ Java source code is ~~not~~ saved in .java extension.

Byte code has .class extension.

e) → The Byte code is platform independent, not JVM.

