Assignment No I

→ Features of Java

There are 12 types of features in Java

i) Simple :

Java is one of the simple language as it does not have complex features like Pointers, operators overloading, multiple inheritance and Explicit memory allocation.

ii) Object oriented

Java organizing the program in the terms of collection of object is a way of collection of object is a way of object - oriented programming each of which represents an instance of the class.

iii) Secure

Java is best known for it's security with Java, we can develop virus-free systems. Java is secured because :

- No explicit pointer

- Java program run inside a virtual machine sandbox.

4) Platform Independent

A platform is the hardware or software environment in which a program runs. Java is Platform independent because it uses a virtual machine and it can run on any platform like windows mac, etc.

5) Robust

Robust means strong. Java uses strong memory management. There are lack of pointers that avoid security problems, there are automatic garbage collection in java. There are exception handling and type checking mechanism in Java. All these points make java robust.

6) Portable

Java is portable because it carry the java byte code to any platform. It does not require any implementation.

7) Dynamic

Java support dynamic memory allocation and garbage collection, simplifying memory management.

8) **Interpreted**

Java can be considered both a compiled and interpreted language because its source code is first compiled into a binary byte - code. This byte code runs on the Java Virtual Machine (JVM), which is usually a software - based interpreter.

9) **High - Performance**

With the Just - In - Time compilers, Java enables high performance.

10) **Multi threading**

With java multithreading feature it is possible to write programs that can perform many tasks simultaneously.

11) **Distributed**

Java is design for the distributed environment of internet, means Java has libraries for creating distributed application, allowing components to communicate over a network.

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12) Architecture

Java is architecture neutral because there are no implementation dependent features.

For example, the size of primitive type is fixed.

In C programming int data occupies 2 bytes as memory for 32 bit architecture and 4 bytes as memory for 64-bit architecture.