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JAVA NOTES.

* JAVA:-

- JAVA is a Programming Language and a Platform.
- JAVA is a high level, object-oriented and Secure Programming Language.
- It is a Powerful general-purpose Programming language.

* JAVA History:-

- JAVA was developed by Sun Microsystems of USA in 1995.
- James Gosling is known as the father of JAVA.
- Before JAVA, its name was Oak.
- In 1995, Oak was renamed "Java" because it was already a trademark by Oak Technologies.

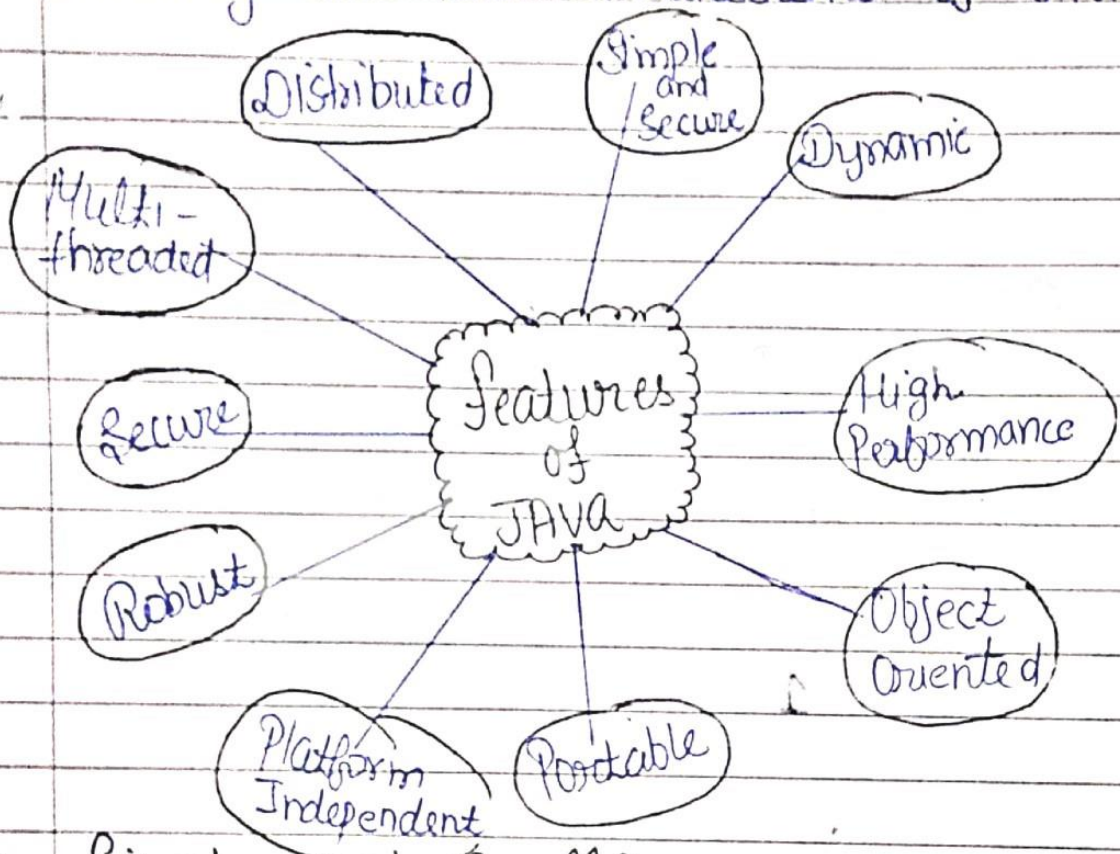
* Platform:-

- Any hardware or software environment in which a program runs is known as platform.

- Since Java has a runtime environment (JRE) and API, is called a platform.

* Characteristics of Java:-

Following are the characteristics of JAVA:-



1. Simple and Small:-

- Java is a small and simple language.
- Java is easy to learn and its syntax is quite simple, clean and easy to understand.
- Java has removed many complicated concepts of C and C++.

- For example? - pointers, operator overloading are not there in Java.

It does not use preprocessor, header files, goto statements and many other.

2. Object Oriented:-

- Java is a true object-oriented language. Almost everything in Java is an object.

- All Program code and data reside within objects and classes.

- Java can be easily extended since it is based on the object model.

- Basic concepts of OOPs are:-

→ Object

→ class

→ Inheritance

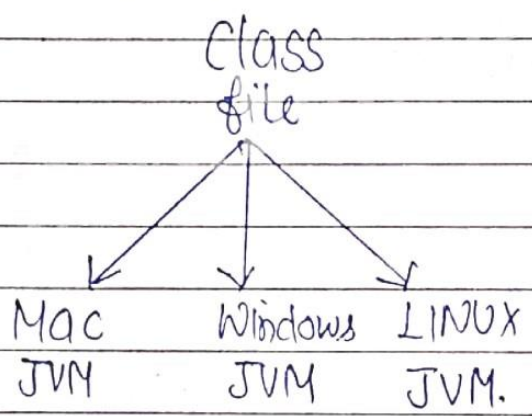
→ Polymorphism

→ Abstraction

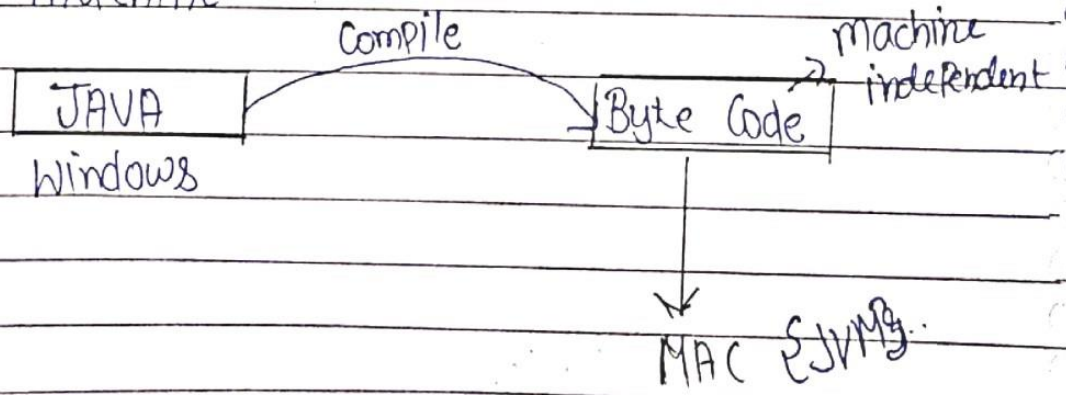
→ Encapsulation.

5 Platform Independent :-

- "Write Once, Run anywhere".
- Java is a platform independent because it is different from other languages like C, C++ etc.
- Java code can be executed on multiple platforms, for example :- Windows, Linux, Mac.



- firstly, Java code is compiled by compiler and converted into byte code. This byte code is platform independent because it can be run on any machine.



4. Portable:-

- Java is a portable because it facilitates you to carry the byte code to any platform.
- It doesn't require any implementation.

5. Secure:-

- When it comes to security, Java is always the first choice.
- With Java secure features, it enable us to develop virus free system.
- Java System not only verify all memory access but also ensure that no virus all communicated with an applet.

6. Robust:-

- Java is a robust language.
↳ Strong (English meaning)
- It Provides many safeguards to ensure reliable code.
- It uses strong memory management.

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7. Multithreaded:-

- Meaning of multithreaded is handling multiple tasks simultaneously.
- Java is a multithreaded programming language because it supports multiple operations running at the same time.

8. Distributed :-

- Java is distributed because it facilitates user to create distributed applications in Java.
- It has ability to share both data and program.

9. High Performance:-

- Java is a fast-interpreted language.
- Java is faster than traditional interpreted programming language because Java byte code is "close" to native code.

10. Dynamic:-

- Java is a dynamic language. It supports the dynamic loading of classes on demand.