Java features Buzzwords

1. Simple and familiar

* It is simple because of its coding style is very clean & easy to understand

· familiar because it has base of familian languages like C & C++ & contain many features of these

· it removes the drawbacks, complexites and confusing elements of C/C++

2. Compiled & Interpreted

· Java combines both these approaches thus making it 2 stage system.

· it integrates the power of compiled languages with the flexibility of interpreted languages

· Java compiler (Javac) compiles the Java source code it to the bytecode

· Java Virtual machine then executes this bytecode which is executable on many 05 & is portable

3. Platform independent

· Being platform independent means a program compiled on onemachine can be excuted on any machine in the world without any change

. Jara achieres platform independence by using the concept of the BYTE Code

. In Jave the fize of primitive data types 16 machine independent which mate Java programs postable among different platforms

· Any changes & updates made in as Processors & system resources will not enforce any changes in dava programs

5. Architectural Neutral

· the program written on one platform or 06 is independent of other platform or environments & can sun on any other 06 without recompiling them.

. It is based on write Once run aryuhere (WORA) or corte once sur everywhou (WORE)

approach.

· This fection is very useful when we develop applets or download applications from the intounct

6. Object Oriented

· it strongly supports the concept of Object Oriented programming due to which it is called a pure object oriented language

· it supports major Object ordented programming features like Encapsulation, Abstraction, & inheritance.

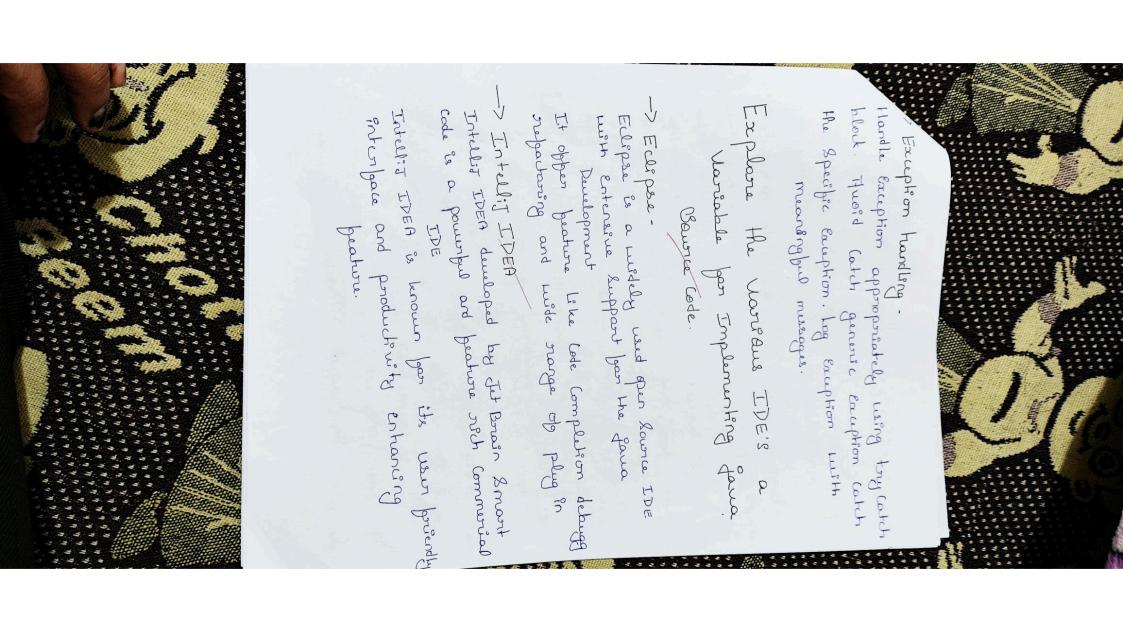
· Ahnost enerything in Java is an object

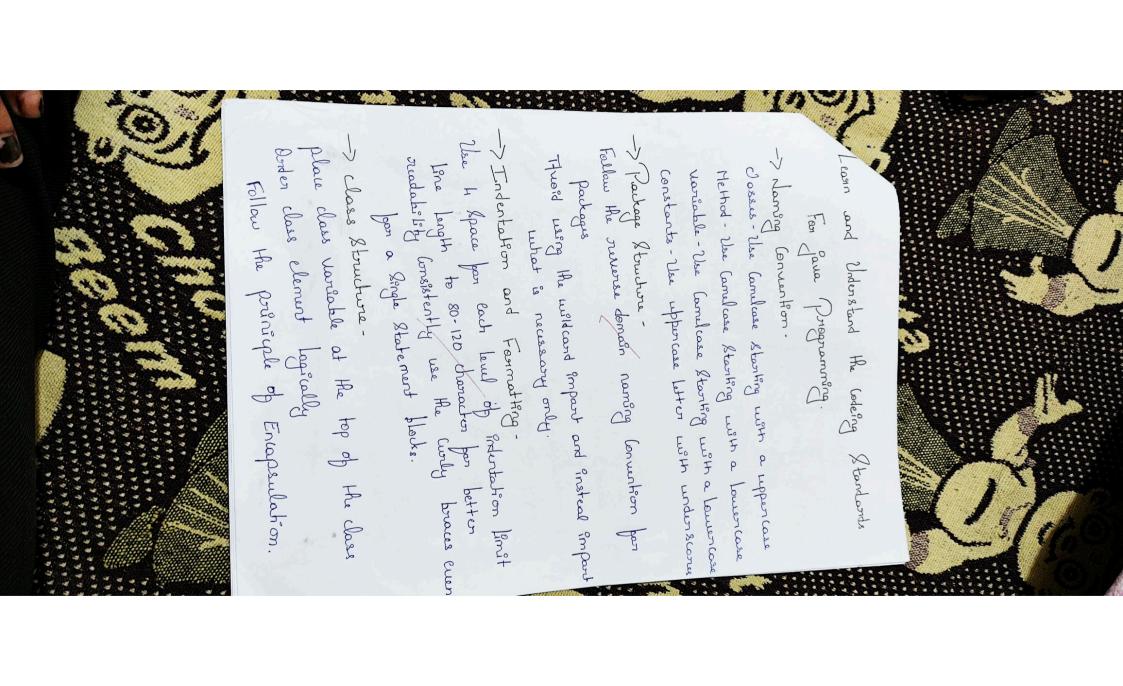
· All programs & data live within Objects & classes

4. Portable

· Pootability of Java comes from artitecture - newrability

. Java bytecode can our on any hardrown that has a complaint JVM which can convoit the bytecode according to machine







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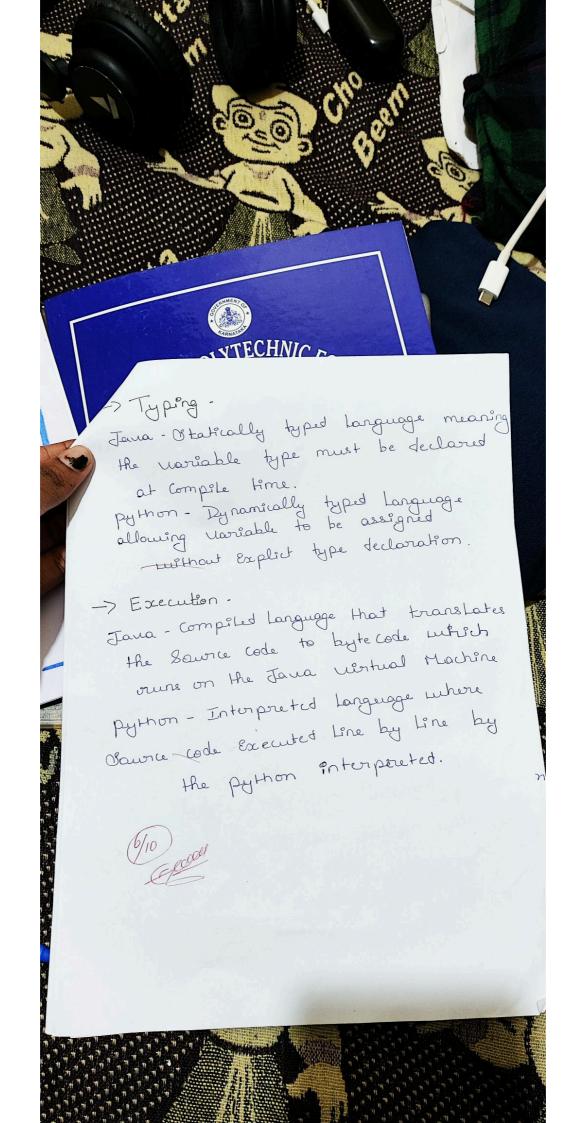
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Bubject -> Object Oriented programm -ing and Disign with Java







J Developer -

bracle Theueloper is an IDE provided by Oracle gar Java and other Language

J Developer is Commonly used gar Developing application on the aracle plat garm.

-> Jupyten Notebook with Java kennel-Ty Jupyten Notebook is a popular open Source une application par interactive computing with the use of the Java kennel Jupter Note book (an be employed for Java Develop -ment allowing for interactive Code Execution and visualization.

Compare Tfrd Understand the Java Programming Language with python

-> Ogyntax -

Jana - require explict declaration of data type street Syntax and the use of Semi - Colon to terminate Statement Python - Use a more concise and readable Osynta with dynamic type and indentation to donate lode block.

7 Robust

· Java is capable of handling Juntime evers, supports automatic geochage collections & exception handling quivoids explict pointur

. it has strong memory management systems

. it helps in eleminating evers as It checks the code devising both compile & runtime

· Exceptional handling identifies & removes suntime evolors

· cury runtime evolor when encountered the program gets terminated.

8. Secure

it not only verify all the memory access but also endured that no thread of virus communicated through an applet

* the absence of pointers in Java ensures that programs cannot give cices to memory locations without

Proper authorization.

· Java is a more secure language as compared to c/c++, as it does not allow a programmer to explicitly create pointers

· programs run in a virtual machine bandbox - A beparate environment that allows upon to execute their applications without affecting the underlying system.

It has a bytecode verifler that checks the code fragments for any illegeal code that violates the

access right.

9. Distributed

· Java is distributed because it encourages user to create distributed application

· in Javo a program can be split ento many parts & store these Pourts on different computers

· a Java programmes silling on a machine can access another program surring on the other machine

· This feature is very helpful in developing large prospets

10 multi-threaded & interactive

· milli-threaded means handling multiple tasks simultaneously or executing multiple functions of the same program in parallel

11. High Performance

e it provides high performance with the use of JIT Just in time compiler. This same time and makes it mor efficient

· the illusion of multithreading enhances the obverall execution Speed of Java

12 Dynamic & Extensible

· highly dynamic as it can adapt to its evolving environment

· even supports the functions worther on other languages suchas c/c++ to be written in jara programs.

These of unctions are called native methods

These methods are dynamically linked at suntime.