***CORE JAVA NOTES***

>Core Java :

--Core java is a part of the java programming language. It is used for creating or developing a general-purpose language.

> Java IDE :

--Best Java IDE's: Eclipse

NetBeans

IntelliJ IDEA

BlueJ

>Features of Java Language :

--The features of Java are also known as java buzzwords. A list of the most important features of the Java language are given below.

1.Simple,

2.Object-Oriented,

3.Portable,

4.Platform independent,

5.Secured,

6.Robust.

>How does Java enable high performance? :

--Java uses "JUST IN TIME COMPILER" to enable high performance.

It is used to convert the instructions into bytecodes.

>What is the difference between local and instance variables in Java?

--Scope: Local variables are visible only in the method or block they are declared whereas instance variables can be seen by

all methods in the class.

--Place where they are declared: Local variables are declared inside a method or a block whereas instance variables inside a

class but outside a method.

>Explain constructor and class :

--A constructor is a member function of a class that is used to create objects of that class. It is always named as constructor,

has no return type, and is invoked using the new operator. A method is an ordinary member function of a class.

>Note on OOPs concept :

--The fundamental idea behind OOP is to combine into a single unit both data and the methods that operate on that data; such

units are called an object. All OOP languages provide mechanisms that help you implement the object-oriented model.

-They are encapsulation, inheritance, polymorphism and reusability.

>What is method overriding in Java?

--If subclass (child class) has the same method as declared in the parent class, it is known as method overriding in Java.

- In other words, if a subclass provides the specific implementation of the method that has been declared by one of its parent classes, it is known as method overriding.

>What is method overloading in Java?

--Overloading in Java. Overloading allows different methods to have the same name, but different signatures where the signature can

differ by the number of input parameters or type of input parameters or both. Overloading is related to compile time (or static) polymorphism.

>Collections in Java :

--The Collection in Java is a framework that provides an architecture to store and manipulate the group of objects.

-Java Collections can achieve all the operations that you perform on a data such as searching, sorting, insertion, manipulation, and deletion.

-Java Collection means a single unit of objects. Java Collection framework provides many interfaces (Set, List, Queue, Deque) and

classes (ArrayList, Vector, LinkedList, PriorityQueue, HashSet, Linked HashSet, Tree Set).

>Java HashMap :

--Java HashMap class implements the Map interface which allows us to store key and value pairs, where keys should be unique. If you try to insert the duplicate key, it will replace the element of the corresponding key. It is easy to perform operations using the key index like updation, deletion, etc.

- HashMap class is found in the java.util package.

-Since Java 5, it is denoted as HashMap<K, V>, where K stands for key and V for value. It inherits the Abstract Map class and implements the Map interface.

>Java Hash Set :

--Java HashSet class is used to create a collection that uses a hash table for storage. It inherits the Abstract Set class and implements Set interface.

-The important points about Java Hash Set class are:

-->Hash Set stores the elements by using a mechanism called hashing.

-->Hash Set contains unique elements only.

-->Hash Set allows null value.

-->Hash Set class is non synchronized.

-->Hash Set doesn't maintain the insertion order. Here, elements are inserted on the basis of their hashcode.

-->Hash Set is the best approach for search operations.

>Java Array List :

--Java Array List class uses a dynamic array for storing the elements.

The Array List in Java can have the duplicate elements also. It implements the List interface so we can use all the methods of the List interface here.

The Array List maintains the insertion order internally.

>Java Linked List class :

--Java Linked List class uses a doubly linked list to store the elements. It provides a linked-list data structure.

It inherits the Abstract List class and implements List and Deque interfaces.

The important points about Java Linked List are:

-->Java Linked List class can contain duplicate elements.

-->Java Linked List class maintains insertion order.

-->Java Linked List class is non synchronized.

>Lambda Expression in Java :

--Lambda expression is the fundamental approach to functional programming in Java.

-It is an anonymous function which doesn’t belong to any class nor does it have a name.

-It provides a concise way to show a method or interface.

-Provides implementation of functional interface.