**1.) TYPES OF INHERITANCE:**

* On the basis of class, there can be three types of inheritance in java

1. Single

2. Multilevel

3. Hierarchical

* Multiple and hybrid inheritance is supported through interface only.

**2.) JAVA VIRTUAL MACHINE (JVM):**

* The Java virtual machine (JVM) is a software implementation of a computer that executes

programs like a real machine.

* The Java virtual machine is written specifically for a specific operating system, e.g., for Linux a

special implementation is required as well as for Windows.

* Java programs are compiled by the Java compiler into *bytecode*. The Java virtual machineinterprets this *bytecode* and executes the Java program.

# 3.) ActionListener

* The Java ActionListener is notified whenever you click on the button or menu item. It is notified against ActionEvent. The ActionListener interface is found in java.awt.event package. It has only one method: actionPerformed().

**4.) Applet:**

• Applet is a special type of Java program that is used in web applications.

• Applets are embedded within a Hyper Text Markup Language (HTML) document.

• Applets provide a way to give life to a web page.

• Applets can be used to handle client-side validations.

• Browsers are required for their execution.

• Applets allow event-driven programming.

**5.) JAVA PACKAGES:**

* A **java package** is a group of similar types of classes, interfaces and sub-packages.
* Package in java can be categorized in two types,

1. Java API package (Built-in package)
2. User-defined package. (Defined by user)

* For example,

***Import java.awt.color;***

**6.) Byte Stream:**

* ByteStream classes are used to read bytes from the input stream and write bytes to the output stream.
* The ByteStream classes are divided into two types of classes, i.e., InputStream and OutputStream. These classes are abstract and the super classes of all the Input/Output stream classes.
* These classes are part of the java.io package.

**7.) AWT classes:**

* **Java AWT** (Abstract Window Toolkit) is *an API to develop Graphical User Interface (GUI) or windows-based applications* in Java.
* Java AWT components are platform-dependent
* The java.awt package provides classes for AWT API such as TextField, Label, TextArea, RadioButton, Checkbox, Choice, List etc.

**8.) ABSTRACT CLASS:**

* If a class contain any abstract method then the class is declared as **abstract class**.
* An abstract class is never instantiated.

**SYNTAX:**

abstract class class\_name()

{ class body}

**9.) FINALIZER (finalize()):**

* Java run time is an automatic garbage collecting system.It automatically frees up the memory resources used by the objects.
* But objects may hold other non-object resources such as file descriptors or window system fonts. The garbage collector cannot free these resources.
* In order to free these resources finalizer method can be used.
* This is similar to destructors in C++.
* The finalizer method is simply **finalize()** and can be added to any class.
* Java calls that method whenever it is about to reclaim the space for that object.

**SYNTAX:**

protectedvoidfinalize() throwsThrowable

{

    //Keep some resource closing operations here

}

**10.) JAVA TOKENS:**

* A token is the smallest element of a program that is meaningful to the compiler.
* These tokens define the structure of the Java language.
* While submit a Java program to the Java compiler, the compiler scans the text and extracts

Individual tokens.

* Java tokens can be broken into five categories:

1. Identifiers

2. Keywords

3. Literals

4. Operators

5. Separators

**11.) String Literals:**

* string literal in Java is basically **a sequence of characters from the source character set used by Java programmers to populate string objects or to display text to a user**. These characters could be anything like letters, numbers or symbols which are enclosed within two quotation marks.

**12.) Interface:**

* An Interface is used to support the concept of multiple inheritance. An interface is similar to class and is a collection of abstract methods and final fields.
* Interface do not specify any code to implement these methods and data fields contain only constants.

**13.) Multithreading:**

* Multithreading is a programming concept in which a program or a process is divided into two or more subprograms or threads that are excuted at the same time in parallel.

**14.) OPERATORS:**

* There are many types of operators in java which are given below:
* Unary Operator,
* Arithmetic Operator,
* shift Operator,
* Relational Operator,
* Bitwise Operator,
* Logical Operator,
* Ternary Operator and
* Assignment Operator.

**15.)AWT Controls:**

* Button,
* label,
* checkbox,
* choice,
* list,
* container.