**Java**

1. Installing Java

* Installing java on windows
* Go to <https://www.oracle.com/in/java/technologies/downloads/>.
* Download the latest version of the JDK as exe.
* After downloading, open and click on install.
* After installing, add java path to the environment variables.
* Open command prompt, and type ‘java -version’ to check the version of java.

‘where java’ – to check where java is located in your local computer.

1. What is Java

Programming language or Platform.

Java is a high level, robust, secured, and object-oriented programming language.

Java was developed by Sun Microsystems in the year 1995.

James Gosling is known as the father of Java.

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

Java has its own runtime environment (JRE) and API, so java is a platform independent.

1. Types of Java Applications

There are mainly four types of java applications.

* Standalone Applications

Standalone applications are also known as desktop applications or window – based applications.

These are traditional software that we need to install on every machine. Currently, AWT and Swing are used for creating standalone applications.

* Web Applications

An application that runs on a server side and creates a dynamic web page is called a web application.

* Enterprise Applications

An application that is distributed in nature, such as banking applications etc. is called an enterprise application.

It has advantages like high-level, security, load balancing.

In Java, EJB (Enterprise Java Beans) (Server-side Software Element) is used for creating an enterprise application.

* Mobile Applications

An application which is created for mobile devices is called a mobile application. Currently, Android and ME are used for creating a mobile application.

1. Java Platforms / Editions

There are four types of platforms or editions of java.

* Java Standard Edition (SE)
* Java Enterprise Edition (EE)
* Java Micro Edition (ME)
* Java FX

Used to develop rich internet applications. It uses lightweight user interface API.

1. Features of Java

* Simple
* Object Oriented

Java is considered everything as an object. So, it organizes our software as a combination of different types of objects.

* Robust

Strong

* Interpreted

Giving instructions while writing a program whether the data format is correct or not.

* Platform Independent
* Portable
* Multithreading

We can write java programs that deal with many tasks at once by defining multiple threads.

1. Installing Eclipse

* Installing Eclipse on Windows OS
* Go to <https://www.eclipse.org/downloads/>.
* Click on latest version and download it.
* After downloading, Open and click on install.
* After installing, create type of project you want.

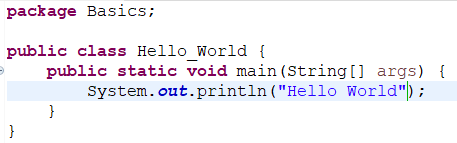
1. Types of Platforms

* Software-based
* Hardware-based

So, Java is a software-based platform.

1. Creating a new java project in eclipse

* Open eclipse and select the workspace location.
* Create a java project and open it.
* Under ‘src’, create packages.
* Under packages, create a class.
* Open the class file and write a program.



Public: Public is a keyword that represents visibility. It means it is visible to all.

Class: Class keyword is used to declare a class in java.

Static: Static is a keyword. If we declare any method as static, it is known as static method.

Void: Void is the return type of the method. It means it does not return any value.

Main: Represents the starting point of the program.

String[] args: It is used for command line argument.

System.Out.Println: It is used to print the statement.

1. Types of Software

* System Software

Depends on the software program.

* Application Software

Depends on the Operating System.

* Internet Software

Depends on the internet.

1. JVM, JRE and JDK

JVM: Java Virtual Machine

It is a virtual machine because it does not physically exist. It provides a runtime environment in which java bytecode can be executed.

* Loads code.
* Verifies code.
* Executes code.
* Provides runtime environment.

JVM performs the following tasks:

JRE: Java Runtime Environment

JRE is a set of software tools which are used for developing java applications.

JDK: Java Development Kit

JDK is a software development environment which is used to develop java applications.