**Introduction to java:**

Java is a programming language created by James Gosling from Sun Microsystems (Sun) in 1991. The target of Java is to write a program once and then run this program on multiple operating systems. The first publicly available version of Java (Java 1.0) was released in 1995. Sun Microsystems was acquired by the Oracle Corporation in 2010.

The Java Development Kit (**JDK**) is a software development environment used for developing Java applications and applets. It includes the Java Runtime Environment (JRE), an interpreter/loader (java), a compiler (javac), an archiver (jar), a documentation generator (javadoc) and other tools needed in Java

**JVM:** Java Virtual Machine. In JRE, JVM is responsible to run the program. In program, JVM read one line of program and executes, read 2nd line and executes. So JVM is responsible to run our java program line by line. It is an interpreter. Responsible to execute program line by line.

**JRE** :**J**ava **R**untime **E**nvironment. If I develop a program and install it in client machine. There client will use the application. Client will only run the developed application; he will not write / modify the application. To run the java application we need JRE. JRE provides environment to ONLY to run java programs.

**JDK** : We develop a java program and run it to generate output. To **Write** **Run** and **Generate o/p** we need jdK. JDK provides environment to develop and run java program. E.G. : Developer develop a java prog. Run it to generate O/P.

JDK = JRE + Development tools.

JRE = JVM + Library classes.

 Java language was designed with the following properties:

1. Platform independent: run on multiple OS like : win, linux etc.
2. Object-orientated programming language:
3. Strongly-typed programming language: Java is strongly-typed, e.g., the types of the used variables must be pre-defined.
4. Automatic memory management: Java manages the memory allocation and de-allocation for creating new objects.