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INFORMATION TECHNOLOGY FOR CLASS 12

(Study materials based on N.C.E.R.T)

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INTRODUCTION TO COMPUTERS, PROGRAMS AND JAVA

JAVA FEATURES

❖ **Object Oriented**: Java is true object oriented language (Almost everything in Java is an object). Java also supports all the concepts of object oriented programming language like objects, classes, polymorphism, inheritance, encapsulation etc.

- Java is pure object oriented language – each and every code in Java comes under a class, including main () function.
- Following is the example show that even main function is comes under a class:

Class Demo

```
{  
    Public static void main (string args[ ] )  
    {  
        System.out.println(“Hello”);  
    }  
}
```

❖ **Robust and Secure** (मजबूत और सुरक्षित)

- Java is a robust language which provides many safeguards to ensure reliable code. Java has also strict compile time and run time checking for data types.
- Java language is designed as a garbage-collected language relieving the programmers virtually all memory management problems. Java also incorporates the concept of exception handling which captures series errors and any risk of crashing this system.
- Security becomes an important issue for a programming language that is used for programming on Internet.
- Thereat of viruses and abuse of resources are everywhere. Java systems not only verify all memory access but also ensure that no viruses are communicated with an applet.
- Java is secure as several dangerous features of C and C++ eliminated such as No memory Pointers, No pre-processor, Array index limit checking etc.

❖ **Distributed** (वितरण)

- Java language is designed as a distributed language for creating applications on networks. Java language has the ability to share both data and programs.
- Java Language applications can open and access remote objects on Internet as easily as they can do in a local system.

❖ **Multithread and Interactive**

- Multithreaded means handling multiple tasks simultaneously and Java supports multithreaded programs.
- With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously.
- The Java runtime comes with tools that supports multiprocessor synchronization and construct smoothly running interactive systems.
- Java was designed with networking in mind and comes with many classes to develop sophisticated Internet Communications.

❖ **High Performance:**

- With the use of Just-In-Time (JIT) compilers, Java enables high performance.