

# Fundamentals of Java

## 1. What is a Programming Language?

**Ans:** A programming Language is a set of commands that can be used to write computer programs. It teaches how to carry out a task with the aid of software or a computer program. Meaning, Programming is a process of using computer language to bring a solution to a problem into practical.

## 2. Why do we need a Programming Language?

**Ans :** Programming Language is a set of commands used to communicate with a computer. The programming language enables us to write efficient programs and develop online solutions such as mobile applications, web applications, and games, etc. It helps in accelerating the input and output of the devices or applications.

## 3. What are the features of JAVA?

- Platform independent - Because Java and C++ are platform independent, application programs created in one Operating system can run on any other Operating system. C and C++, however, are platform dependent languages, making it impossible for application programs created in one Operating system to run in any other Operating system.
- Object-Oriented - The features of object-oriented programming are supported by Java. Its object model is straightforward and flexible.
- Simple - Because Java incorporates many C/C++ capabilities, it is simple to understand.
- Portable - Java is a portable language . Java allows the same software to run on various platforms.
- Secure - Java offers a variety of defences against malware and viruses. It guarantees that neither damage nor security will be compromised.
- Multi-threaded - Java's multithreading programming capability enables you to create a program that executes multiple tasks concurrently.
- Robust - It assists us in identifying potential errors as soon as feasible during program development.

## 4. What is an Object?

**Ans:** An Object is an instance of a class. It is an entity with state and behaviour. Objects are created from classes by using new keyword.

## 5. What is a class?

**Ans:** A class in java is a blueprint from which the objects are created. It is a collection of items with similar characteristics.

## 6. Explain about main() method in JAVA?

**Ans:** The main() is the starting point for JVM to start execution of a Java program. Without the main() method, JVM will not execute the program. The syntax is public static void main(String args[]);  
Public → public is an access specifier, JVM will see when we use public and get executed the main() method , if we use private or protected the JVM will not be able to see and the main() method will not be executed.

Static → By using static we can call the main() method without creating an object. So we don't need any object to call the main() method. We can make a method static by using the static keyword.

Void → In Java, every method has the return type. Void keyword ensures the compiler that the main() method does not return any value.

Main → Main method in java is a predefined method in JVM . it ensures the JVM to execute the code line by line . It is the Starting point of where the program starts to execute.

String[] args → String[] args in JAVA is to receive some amount of data from the user at compilation time. The responsibility of the data collection and storing of that data is done by String[]args.