Assignment – Anudip foundation

JAVA

Java 1.0 (January 23, 1996)

- The first release of Java, developed by Sun Microsystems.

- Introduced the Java Virtual Machine (JVM), enabling platform independence and the famous "Write Once, Run Anywhere" (WORA) principle.

- Included core libraries for Graphical User Interface (GUI), networking, and utilities.

- Supported basic language features like classes, objects, inheritance, and multithreading.

Java 1.1 (February 19, 1997)

- Improved performance and added language enhancements.

- Introduced inner classes, allowing classes to be defined within other classes.

- Added JavaBeans, a software component model for building reusable components.

- Introduced JDBC (Java Database Connectivity) for database connectivity.

Java 1.2 (December 8, 1998)

- Introduced the Swing GUI toolkit, providing a more flexible and powerful alternative to the Abstract Window Toolkit (AWT).

- Added the Strictfp keyword for precise floating-point calculations.

- Included Java IDL (Interface Definition Language) for CORBA (Common Object Request Broker Architecture) support.

- Introduced the Java Plug-in, allowing Java applets to be embedded in web browsers.

Java 1.3 (May 8, 2000)

- Improved performance and added language enhancements.

- Introduced the HotSpot JVM, providing better performance for server applications.

- Added JNDI (Java Naming and Directory Interface) for directory services.

- Included JPDA (Java Platform Debugger Architecture) for better debugging support.

Java 1.4 (February 6, 2002)

- Introduced regular expressions through the java.util.regex package.
- Added non-blocking I/O (NIO) for better scalability and performance.
- Included assertions for defensive programming and error checking.
- Introduced the Java Web Start technology for deploying Java applications over the web.

Java 5.0 (September 30, 2004)

- Introduced several language features, including generics, enhanced for-loop, autoboxing/unboxing, and varargs (variable arguments).
- Added annotations, allowing metadata to be associated with code elements.
- Introduced enumerated types, providing type-safe constants.
- Included static import, allowing static members to be imported and used without class name prefixes.
- Improved memory management with the concurrent utility classes.

Java 6.0 (December 11, 2006)

- Introduced support for JDBC 4.0, providing better database connectivity.
- Added the Java Compiler API, allowing programmatic compilation of Java source code.
- Included the Java DB (formerly known as Apache Derby) as the default database.
- Improved performance with the HotSpot compiler and garbage collector enhancements.

Java 7.0 (July 28, 2011)

- Introduced try-with-resources, providing automatic resource management.
- Added the diamond operator (<>) for generic instance creation, reducing verbosity.
- Included binary literals, allowing binary values to be represented directly in the code.
- Supported strings in switch statements, improving code readability.
- Introduced the Fork/Join Framework for better parallelism and concurrency.

Java 8.0 (March 18, 2014)

- Introduced lambda expressions and functional interfaces, enabling functional programming style.
- Added the Stream API for processing data in a declarative way, improving code readability and performance.

- Included the new Date and Time API (java.time) for better date and time handling.

- Introduced default and static methods in interfaces, allowing interfaces to have method implementations.

Java 9.0 (September 21, 2017)

- Introduced modularity with the Java Platform Module System (JPMS), improving scalability and security.

- Added jShell, a Java REPL (Read-Eval-Print Loop) tool for interactive programming.

- Included a new HTTP client and improvements to the Garbage Collector.

- Introduced several performance and security enhancements.

Java 10.0 (March 20, 2018)

- Introduced local-variable type inference with the `var` keyword, reducing code verbosity.

- Added an experimental Java-based JIT compiler and parallel full GC for G1.

- Included several performance, security, and stability improvements.

Java 11.0 (September 25, 2018)

- Removed Java EE and CORBA modules from the Java SE distribution, focusing on core Java.

- Added a low-overhead heap profiling tool and a new HTTP client.

- Introduced dynamic class-file constants and a unified GC logging.

- Improved performance, security, and stability.

Java 12.0 (March 19, 2019)

- Introduced preview features, including switch expressions and pattern matching.

- Added a new compaction mode for the G1 garbage collector.

- Included several performance, security, and stability improvements.

Java 13.0 (September 17, 2019)

- Introduced text blocks, allowing multi-line string literals.

- Added a new socket API and improvements to the Z Garbage Collector.

- Included several performance, security, and stability improvements.

Java 14.0 (March 17, 2020)

- Introduced pattern matching for the `instanceof` operator, improving code readability.
- Added helpful NullPointerExceptions and improved Docker support.
- Included several performance, security, and stability improvements.

Java 15.0 (September 15, 2020)

- Introduced sealed classes and records, providing better data modeling and immutability.
- Added a foreign linker API for invoking foreign code.
- Included several performance, security, and stability improvements.

Java 16.0 (March 16, 2021)

- Introduced a vector API for accelerating data-parallel operations.
- Added a Unix-domain socket channel and a packaging tool.
- Included several performance, security, and stability improvements.

Java 17.0 (September 14, 2021

- Introduced pattern matching for switch statements and expressions, improving code readability.
- Added a macOS/AArch64 port and removed the Nashorn JavaScript engine.
- Included several performance, security, and stability improvements.

Java 18.0 (March 22, 2022)

- Introduced simple web server and code snippets in Java API documentation.
- Added support for UTF-8 by default and improved performance of the G1 garbage collector.
- Included several performance, security, and stability improvements.

Java 19.0 (September 20, 2022)

- Introduced a structured concurrency API and a vector API for Panama foreign data access.
- Added a lightweight virtual machine for running Java on small devices.
- Included several performance, security, and stability improvements.

Java 20.0 (March 21, 2023)

- Introduced pattern matching for switch expressions and enhanced type patterns, improving code readability.

- Added improvements to the Java linker and the G1 garbage collector.

- Included several performance, security, and stability improvements.