

Java is a [high-level](#), [general-purpose](#), [memory-safe](#), [object-oriented programming language](#). It is intended to let [programmers](#) *write once, run anywhere (WORA)*,^[18] meaning that [compiled](#) Java code can run on all platforms that support Java without the need to recompile.^[19] Java applications are typically compiled to [bytecode](#) that can run on any [Java virtual machine](#) (JVM) regardless of the underlying [computer architecture](#). The [syntax](#) of Java is similar to [C](#) and [C++](#), but has fewer [low-level](#) facilities than either of them. The Java runtime provides dynamic capabilities (such as [reflection](#) and runtime code modification) that are typically not available in traditional compiled languages.

Java gained popularity shortly after its release, and has been a popular programming language since then.^[20] Java was the third most popular programming language in 2022 according to [GitHub](#).^[21] Although still widely popular, there has been a gradual decline in use of Java in recent years with [other languages using JVM](#) gaining popularity.^[22]

Java was designed by [James Gosling](#) at [Sun Microsystems](#). It was released in May 1995 as a core component of Sun's [Java platform](#). The original and [reference implementation](#) Java [compilers](#), virtual machines, and [class libraries](#) were released by Sun under [proprietary licenses](#). As of May 2007, in compliance with the specifications of the [Java Community Process](#), Sun had [relicensed](#) most of its Java technologies under the [GPL-2.0-only](#) license. [Oracle](#), which bought Sun in 2010, offers its own [HotSpot](#) Java Virtual Machine. However, the official [reference implementation](#) is the [OpenJDK](#) JVM, which is open-source software used by most developers and is the default JVM for almost all Linux distributions.

[Java 24](#) is the version current as of March 2025. Java 8, 11, 17, and 21 are [long-term support](#) versions still under maintenance.