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Java vs. Python

Which is best for students to learn?

Java and Python are among the top programming languages used globally. While Java is one of the most used programming languages and development platforms, Python is known for its simplicity and short time to get up and running.

Here is a guide to the features and benefits of each.

	Java	Python
Ease of learning	Java programming can be fun and easy for younger students to learn without needing to understand the underlying constructs until they are ready. With Java, students get acquainted with versatile object-oriented programming (OOP), making it a wonderful platform for starting students on the pathway to computer programming with an industry-recognized tool.	Suitable for beginning learners with easy and direct syntax; students can start coding simple programs without understanding the underlying constructs.
Usage	Java is a programming language that is used to power digital innovation, and is the number one programming language for enterprise and business applications and cloud computing. Java is the programming language that powers the Internet. When students learn Java, they grow a strong understanding from a solid programming foundation.	While Python runs slower than Java, Python programs are quick to develop. Python works well for simpler programs. Its direct approach makes Python an excellent language for scientific applications such as artificial intelligence (AI) and machine learning (ML) projects.
Open source libraries	Java has a huge ecosystem of open-source libraries, across virtually any domain, including AI and ML.	Python offers multiple open source libraries, particularly in AI/ML fields.
Used for	Large-scale, performance-critical and secure applications due to its compiled nature and strong object-oriented features.	Rapid development, AI and ML projects, with simple syntax and readily available libraries.
Updates	Oracle delivers new Java feature releases every six months, providing continuous innovations and enhancements to the platform's performance, stability, and security.	Python is updated annually, with each version supported for five years.
Best for	Performance and stability; runs faster and is easier to debug and maintain. In addition, Java is fully transportable among platforms.	Development speed; shorter code and launches quickly but runs slower.

Ideally, students can learn both languages, depending on their career interests, the depth of the required coding knowledge and the type of applications and projects on which they're working. While Python is a great language to quickly start learning coding constructs, and for AI and ML projects, Java provides students with solid, professional-level coding methods and practices, suitable for developing enterprise applications.

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