

Computer Science FAQ: *Java vs. Python, Which Should I Take?*

Q: What are “Java” and “Python”? They are both computer programming languages, allowing the programmer to create a limitless number and type of computer applications that are modifiable in almost any way imaginable. There are dozens of other computer languages, but these languages are both accessible to high school students and are powerful enough to be useful well beyond high school.

Q: Why learn Python over Java? The way that Python is structured and written makes it simpler and easier to learn and to use than Java, but it is still a powerful programming language. Python has some features that make working with graphics a bit easier. For students new to programming, learning Python could be used to prepare them for learning Java or other computer programming languages in the future. If you were to write a program in both Java and Python to accomplish the same task, the Python program would always be significantly shorter.

Q: Why learn Java over Python? Java is the programming language in which the Advanced Placement test is given. Java is installed on billions of devices around the world and is a sophisticated and powerful object-oriented language. One can write apps for the Android operating system in Java. Programming jobs in Java are more plentiful than in Python. Java programs can easily be turned into “applets” that run on web browsers and Java programs tend to run faster than Python programs.

Q: What do Java and Python have in common? The software for both Java and Python is open source and, therefore, free! Java is an object-oriented language and Python supports object-oriented programming. Since they are both programming languages, both rely on a strong Algebra 2 background for students trying to learn them. They’re both fun, rewarding, and useful to learn.

Q: Can I take both courses? Yes. Students can take both Python and Java (in either order) and learn new concepts and approaches to computer science, and their programming skills would be enriched by working in two different languages. Of the two languages, Java is more complex and challenging and so a beginner to computer science may want to begin with Python and progress to Java.

Q: Is Java at CCHS an Advanced Placement course? No. However, most of the topics on the AP exam are covered over the course of the 2 semesters. In the past, students that have done well in both *Intro to Java Programming* and *Advanced Java Programming*, and have done some extra study in addition to the coursework, have done very well on the AP exam.

Q: What are the prerequisites for these courses? It’s difficult to nail down a perfect test for whether or not a given student will be successful in these programming classes. A strong ability to think mathematically and logically is certainly important. For Java, add to that a good ability to think abstractly. A strong Algebra 2 background is often cited as a good prerequisite, but students that have done Algebra 1 at the Honors level and have some experience with programming could also be successful.