



CodeHS

AP Java (Mocha) CSTA K-12 Computer Science Standards Alignment Overview

The AP CS A (Java) course is an introductory college-level computer science course introducing the basics of programming with Karel the Dog and Java, object-oriented programming, data structures, and algorithms and recursion. Important Note: The AP CS A (Java) course is aligned to the College Board Framework, but also supports the the CSTA K-12 Computer Science Standards.

CSTA K-12 Computer Science Standards Concepts

Algorithms & Programming

Algorithms and programming are central to the AP CS A (Java) course. Students learn the core principles of developing their own algorithms and implementing them in the Java programming language. Algorithms, variables, control, modularity, classes, object-oriented programming, recursion, and program development are all taught in this course.

- Standards: 3A-AP-13, 3A-AP-14, 3A-AP-16, 3B-AP-10, 3B-AP-11, 3B-AP-12, 3B-AP-13, 3B-AP-14, 3B-AP-16

Computing Systems

Computing Systems is a core concept throughout the AP CS A (Java) course. Students learn about various computing devices and how humans interact with them, including devices that extend the capabilities of humans. Students learn about computer organization including the relationship between hardware and software. Troubleshooting computing systems is a core concept of the AP CS A (Java) course as well. Computing systems might not work as expected because of problems in the software. Students are expected to identify problems in their programs and fix them.

Data & Analysis

The AP CS A (Java) course teaches students how data is stored in a computer as an abstract representation. Students learn about classes where data in variables can be encapsulated and data structures, in general.

Impacts of Computing

Computing has had significant impacts in several fields. In this course, students learn about the positive and negative impacts computer ethics. Students also learn the ethical considerations of sharing their code with others, and finding solutions to CodeHS exercises online.

Networks & the Internet

In AP CS A (Java) students learn that the combination of hardware, software, and their programming practices control access to data and systems within the networks they work in.