

AP Computer Science Principles

- CRD-1 Incorporating multiple perspectives through collaboration improves computing innovations as they are developed.
- CRD-2 Developers create and innovate using an iterative design process that is user-focused, incorporates implementation/feedback cycles, and leaves ample room for experimentation and risk-taking.
- DAT-1 The way a computer represents data internally differs from how the data are interpreted and displayed to the user. Programs are used to translate data into a representation more easily understood by people.
- DAT-1 Programs can be used to process data, which allows users to discover information and create new knowledge.
- APP-1 To find specific solutions to generalizable problems, programmers represent and organize data in multiple ways.
- AAP-2 The way statements are sequenced and combined in a program determines the computed result. Programs incorporate iteration and selection constructs to represent repetition and make decisions to handle varied input values.
- AAP-3 Programmers break down problems into smaller and more manageable pieces. By creating procedures and leveraging parameters, programmers generalize processes that can be reused. Procedures allow programmers to draw upon existing code that has already been tested, allowing them to write programs more quickly and with more confidence.
- AAP-4 There exist problems that computers cannot solve, and even when a computer can solve a problem, it may not be able to do so in a reasonable amount of time.
- CSN-1 Computer systems and networks facilitate the transfer of data.
- CSN-2 Parallel and distributed computing leverage multiple computers to more quickly solve complex problems or process large data sets.
- IOC-1 While computing innovations are typically designed to achieve a specific purpose, they may have unintended consequences.

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IOC-2 The use of computing innovations may involve risks to personal safety and identity