Foundations of Computer Programming
Georgia

Computing Ideas	
	The Computing Ideas course is a first computer science course introducing the basics of programming with Karel the Dog, the basics of designing a web page, and how information and images are represented with computers. Students will learn to code using blocks to drag and drop, but they can switch between blocks and text as desired. Students will create a portfolio on the web of projects they build throughout the course.
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Grades 6-8	**MS-CS-FCP-1:** Demonstrate employability skills required by business and industry and explore, research, and present careers in information technology. **MS-CS-FCP-2.2:** Demonstrate an understanding of key functional components (input/output devices, software applications, wi-fi and/or Ethernet, and IP addresses). **MS-CS-FCP-2.3:** Demonstrate an understanding of the fundamental concepts for how computers process programming commands (hex, binary language, sequence of commands, conditional structures, looping structures). **MS-CS-FCP-3.1:** Make observations and organize the concepts of modularity, including functions and methods, as it relates to programming code reusability. **MS-CS-FCP-3.3:** Analyze the problem-solving process, the input-process-output-storage model of a computer, and how computers help humans solve problems **MS-CS-FCP-3.4:** Develop an algorithm to decompose a problem of a daily task. **MS-CS-FCP-4.1:** Develop a working vocabulary of programming including flowcharting and/or storyboarding, coding, debugging, user interfaces, usability, variables, lists, loops, conditionals, programming language, and events. **MS-CS-FCP-4.2:** Utilize the design process to brainstorm, implement, test, and revise an idea **MS-CS-FCP-4.3:** Cite evidence on how computers represent data and media (sounds, images, video, etc.). **MS-CS-FCP-4.5:** Implement a simple algorithm in a computer program. **MS-CS-FCP-4.8:** Create a computer program that implements a loop. **MS-CS-FCP-4.9:** Develop a program that makes a decision based on data or user input. **MS-CS-FCP-4.10:** Debug a program with an error. **MS-CS-FCP-6.1:** Summarize ethical, privacy, and legal issues of a digital world using current case studies