Essential Skills for Algorithms & Programming: Program Development (3)

Grade	Standard: AP.PD.03	Essential Skills
K	Identify errors in an **algorithm** that includes sequencing and repeated **procedures** using a **programming language** or **unplugged** activity. Discuss how errors in the algorithm could be corrected.	Describe how an **algorithm** or series of steps did not work as expected or desired.
1	Identify and correct errors (**debug**) in programs which include sequencing and repetition to accomplish a task, through a variety of techniques and strategies that could include an unplugged activity (e.g., changing order or sequence, following steps, trial and error).	Analyze a simple algorithm to find **bugs**. Suggest solutions to the bugs in the algorithm using a variety of strategies.
2	Develop and debug programs that include sequencing and repetition to accomplish a task, through the use of a programming language and/or unplugged activity.	Develop an algorithm for a specific purpose and identify any bugs in the algorithm. Implement a proposed fix for bugs in an algorithm and determine if the algorithm works as desired.
3	Analyze and debug an existing **program** or **algorithm** that includes sequencing, repetition, and **variables** in a programming language.	Analyze a **program** to determine if it is successful. Propose and implement a correction for a flawed portion of a program
4	Create and debug a program or algorithm that includes sequencing, repetition, and variables in a programming language	Create a program that includes sequences, loops and **variables**, and detect, and correct flaws found in the program.
5	Create, test, and debug a program that includes sequencing, repetition, and variables in a programming language to ensure it runs as intended.	Evaluate a computer program you have created (containing sequences, loops and variables) with respect to its intended outcome. Examine a computer program you have created (containing sequences, loops and variables) to determine where errors exist and make revisions in order to achieve the intended outcome.

Skills for Standard: AP.PD.03   Grades K-5
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