Week 01-1 Purpose of Algorithms

An algorithm is defined as “an ordered and finite set of operations that must be followed in order to solve a problem” (Dominguez). When thinking of an algorithm, the first subject that comes to mind is mathematics. However, algorithms aren’t just used in math but in a variety of subjects. From stock exchanges, crime predictions, to algorithms within social networking. Now what is the purpose of algorithms in computer programming? When developers create programs, they set commands in one of the many programming languages that complete specific tasks. Programmers need to use these specific languages to be able to “communicate” with the computer, so it will understand what needs to be done. Being able to do this allows developers to create these algorithms to help the computer understand their instructions. Carnegie Mellon University states that a “good” algorithm needs to execute as efficiently as possible with the fewest number of steps. “A good algorithm should be designed in a way that others will be able to understand it and modify it to specify solutions to additional problems” (Principles of Computing, 10). In a programming sense this means that other programmers need to be able to look at your work and be able to comprehend it and adjust the program if needed. Often leaving comments to explain your work helps with this instance.

Sources:

Dominguez, Alberto. “What Is an Algorithm? A Simple Description and Some Famous Examples.” *Pandora FMS*, ARTICA ST, 14 May 2018, blog.pandorafms.org/what-is-an-algorithm/.

Guna, and Cortina. “Unit 3A Algorithmic Thinking.” *15110 Principles of Computing*, Carnegie Mellon University, 2018, www.cs.cmu.edu/~15110-s13/Unit03PtA-handout.pdf.