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4-2 Milestone Three: Enhancement Two: Algorithms and Data Structure

CS-499-T6571 Computer Science Capstone 20EW6

In this milestone I have chosen to showcase how algorithms can be used across multiple programs and can be implemented in different ways based on what the algorithm is meant for. I have decided to use a binary search algorithm and show the different ways it can be used. In the two programs I use the binary search algorithm with, I am able to show how the same algorithm can be used to search a specific set of pre entered characters or can be implemented in a program that allows the user to enter any characters they want based on the prompts and the algorithm can search for the entered character. There are most definitely more complex algorithms than the one I am using, especially when it comes to performing complex mathematics but the point I am trying to make is that algorithms are meant to be able to use in different situations and different programs. They are meant to be multifunctional and I am trying to showcase how that can be accomplished based on the information the program works with.

I believe I have been able to meet the course objectives for this milestone because I have been able to showcase the same algorithm in two different ways that show how an algorithm is multifunctional. This was what I outlined in the initial enhancements submission and I believe I was able to accomplish what I set out to do at the beginning of the semester. As I was creating the content for this milestone, I realized that not only can these algorithms be used in many ways, but they can also be used across different programming languages. The concepts and structures are the same for the algorithm and the only differences would be the keywords that the programming languages use. For example, in the C programming language it uses the keyword printf to display information as opposed to the C++ programming language which uses cout to display information. Everything else in the algorithm would be the same. All-in-all I believe I was able to meet the requirements of this milestone and have been able to showcase the purpose behind algorithms in general.