

The use of C++ in this coding project comes with certain benefits and drawbacks. For instance, one benefit is the ease it provides in formatting your output to get it to look how you want it. There are many easy-to-use formatting options that make it a clear benefit and provide ways for you to control the look of the user interface. On the other hand, the drawbacks of C++ are still there, such as having to be aware of memory management. Also, C++ is not as easy to read or understand as Python, which can be a drawback as well.

For this project, Python was used for the analysis portion. A benefit of using Python is it can work through large sets of data due to its ability to process data quickly. There are many libraries available to Python that allow it to clean and process data. Then there are other libraries that can be used to analyze a data set. Another benefit of Python is the relative ease of regular expressions provided by the Python re library. However, there are some drawbacks to Python that C++ does not experience. First, a big drawback of Python is its speed. Compared to C++, Python is much slower. A second drawback concerns Python's memory consumption. Python is not well suited to memory intensive tasks. Additionally, Python itself, can consume a large amount of memory (GeeksforGeeks, 2021).

In many instances, two or more programming languages can be effectively used in a single project. For this project, C++ and Python were both used to take advantage of each one's benefits. In this case, C++ was used to provide a nice user interface for the program. Meanwhile, Python made it simple to read in data from a file, parse the data to get the required information, and then display that information and save it to a new file. An interesting idea could be to swap out the use of C++ for Java. You could use Java to then create a nice-looking GUI or web app instead of a C++ console app. I feel that the combination of C++ and Python

already effectively and efficiently completes the tasks needed for the grocery-tracking program.

However, other languages could still be used to test other ways of implementing this program.

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Programming Languages Explanation

GeeksforGeeks. (2021, July 29). *Disadvantages of Python*. Retrieved June 14, 2022, from  
<https://www.geeksforgeeks.org/disadvantages-of-python/>