Assignment 1 Write up

In this assignment, I have focused on the speed aspect of the task. I wanted to create a model that is simple and quick for the computer to run. However, I could not ignore the accuracy aspect of the problem. After thinking and through “googling” I saw that I could use the built-in *filter()* function to iterate through all the values that are in the tuple through the function the user has created. Therefore, I have attempted to create a simple function that subtracts the weight of an item from the total capacity. However, this script wouldn’t be accurate without some sort of a standard. In other words, it is possible that the filter would just pick the first *n* number of items that filled up the bag. Therefore, I added a *value*:*weight* ratio to define the *item\_value* of an item. Therefore, the *filter()* function takes in a sorted list of items based on the *item\_value*.

It is true that the algorithm I have created just grabs the highest value to weight ratio into the bag, which becomes an issue when the algorithm already packed all items that are under the capacity of the bag. It becomes an issue because it fails to *replace* or even *look for* an alternative solution. However, it is rather useful when we are running on a time constraint. The algorithm is fast, with an acceptable accuracy rate.