Module 02 – Transportation Modeling

Exploratory Data Analysis
In this section, you should perform some data analysis on the data provided to you. Please format your findings in a visually pleasing way and please be sure to include these cuts:

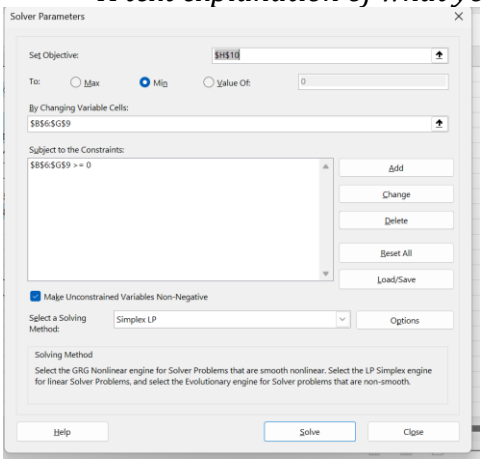
- *The locations involved in the analysis (id -> name) and specify if they are a source or a destination*
- *A table of the average cost between source and destination (for the sake of this assignment, we are dealing with sugar-miles similar to the bushel-mile example from the textbook)*

Model Formulation
Write the formulation of the model into here prior to implementing it in your Excel model. Be explicit with the definition of the decision variables, objective function, and constraints

Decision variable: Shipment amounts
Objective function: Grand total
Constraints: >= 0

Model Optimized for Cost Reduction
Implement your formulation into Excel and be sure to make it neat. This section should include:

- *A screenshot of your optimized final model (formatted nicely, of course)*
- *A text explanation of what your model is recommending*



In this model I had the Shipments being greater than zero, and aiming to minimize the grand total of all of the shipment. This was calculated by using the sum product function with shipping cost and the amount being shipped.

Model with Stipulation
*Please copy the tab of your original model before continuing with the next part to avoid messing up your original solution. What happens if you add an additional constraint to the model such that all demand **MUST** be met. Is the solution still feasible? If not, please explain why.*

- *I added an additional constraint which aimed to limit the amount which was flowing from the supplier to the shipment location. However as I tested a number of limiters most of these resulted in an inability for the model to be solved. This is likely because there is already a lot of other constraints and having this added in overwhelmed the model.*