**Nithin Das, CWID: 10422784, Date: 10/31/19 Assignment W&A 4th Edition, Ch 6, Q 28, Page 366**

I pledge on my honor that I have not given or received any unauthorized assistance on this

assignment/examination. I further pledge that I have not copied any material from a book, article,

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Signature: NITHIN DAS

Date: 10/31/2019

**Management Overview**

* **Problem Statement**
* To develop a linear model, using binary variables, that determines the locations of service centers and then assigns customers to these service centers to minimize the total annual distance traveled.
* **Data Sources**

Distances between cities, annual number of trips to each city, number of service centers to locate

Constraints: Number of service center locations chosen =3

Number of service centers assigned to each customer =1

Number of cities serviced by a given city <= Logical capacity

* **Model Approach**
* Enter all the inputs in the spreadsheet
* Identify the changing cells, i.e. a flag to denote if service center needs to be setup in the city, assignments of customer city to service center city
* Enter random variable for ‘above variables
* Use Solver to minimize the total annual distance travelled by the representatives from the service center
* **Solution**

Results:

The minimized total distance to be covered by the service center representatives is 10681 (in 1000 of miles)