HW1116

You are the proud inventor of "The best barbecue sauce on earth." You have four plants with the following stock: Accident, Maryland (AMD) has 250 bottles, Chicken, Alaska (CAK) has 500, Embarrass, Minnesota (EMN) has 300, and Experiment, Georgia (EGA) has 400.

Your orders for next week are as follows: New Jersey (NJ) 150; New York City (NYC) 250; South California (SCA) 300; Florida (FL) 250; Texas (TX) 100; Alabama (AL) 150; Colorado (CO) 150; Nevada (NV) 100.

You also have 1500 bottles of your very special "Chicken with a Rythm: the world's best chicken spice" at your AMD plant, and you have the following orders for this spice: NJ 350 NYC 250 TX 500 CO 400.

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The following list provides the unit shipping costs in cents (the same for both products): CAK→EMN 10, EMN→NYC 8, EMN→CO 3, CO→NV 5, NV→SCA 2, TX→NV 3, AL→TX 1, AL→CO 3, EMN→AL 4, AMD→NJ 4, NJ→NYC 3, AMD→FL 4, AMD→EGA 4, EGA→AMD 3, EGA→AL 5, EGA→FL 2, EGA→TX 6, FL→TX 5, TX→SCA 6.

Both products are delivered in same sized boxes. For each shipping segment we have a capacity given the number of boxes we can ship through that route: CAK→EMN 320, EMN→NYC 230, EMN→CO 290, CO→NV 190, NV→SCA 120, TX→NV 150, AL→TX 90, AL→CO 110, EMN→AL 180, AMD→NJ 120, NJ→NYC 250, AMD→FL 230, AMD→EGA 500, EGA→AMD 400, EGA→AL 700, EGA→FL 600, EGA→TX 500, FL→TX 400, TX→SCA 250.

Create a model and ampl implementation to find a **cost minimizing delivery plan to distributors** that ordered your products (fulfilling orders as much as possible.)