MG-UY 4204 Project 1

In this project, you will know how to formulate a mixed integer linear programming problem from real-life data and solve it using AMPL/CPLEX. This is a group project. **Any form of copying and pasting from other sources and projects will be reported to the university**.

A company wants to ship wheat from two of its harvested farms to three destinations, as shown in Figure 1. However, because of some technical problems, company needs to transport wheat from source to destination via some transshipment points.

Source capacity, destination demand, and transportation cost are shown in Figure 1. For example, source 1 has a capacity of 300 units, it takes \$16 per unit to transport from source 1 to transshipment point 3, and destination 6 has a demand of 200 units.
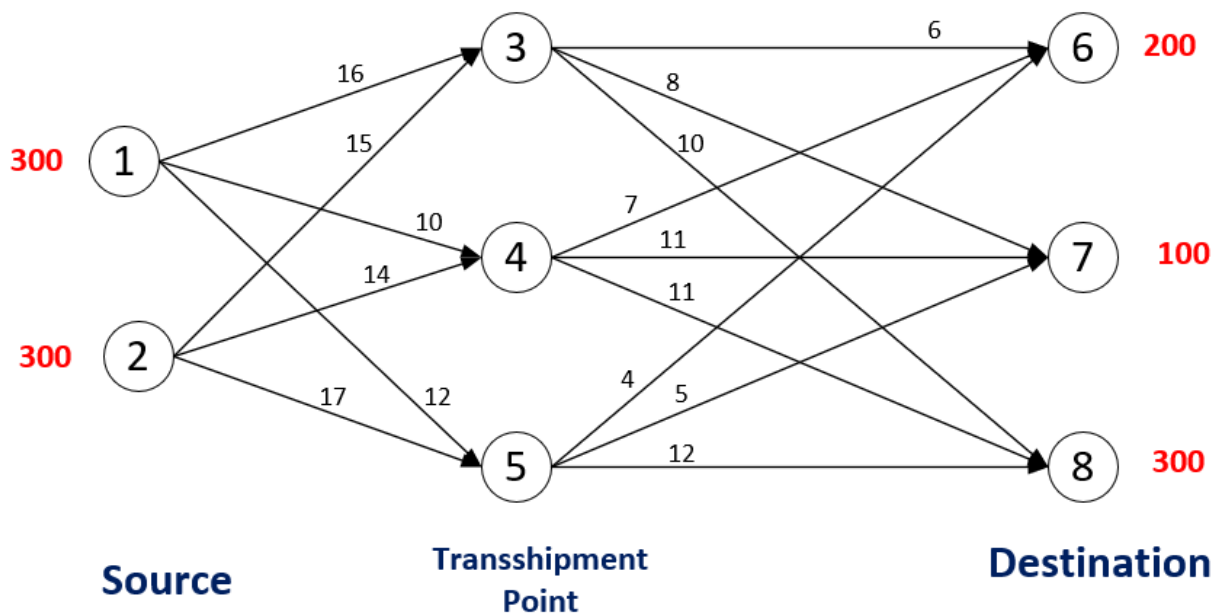

Figure 1: Network of transshipment routes

Our goal is to determine how many tons of wheat to transport from each source to each destination to minimize the total cost of transportation.

Please follow the following steps for this project:

Step 1: Define your variables and parameters.

Step 2: Formulate the linear programming model problem for above case study.

Step 3: Write AMPL code for the model from step 2 and paste your codes (.mod file, .dat file, .run file) after the formulation.

Step 4: Solve your codes from step 3 using CPLEX solver. Take a screenshot of your results and attach it after the code.

On the cover of your project report please transcribe the following statement:

"We _____ did not give or receive any assistance on this project."

Write your name in the blank and sign below it. You may use an electronic signature such as [Adobe EchoSign](#).