! T & P Transportation problem in LINGO form;

! copy and paste this document into LINGO;

SETS:

! The simple/primitive sets- these set will eventually be the parameters;

! Unlike the previous problem, each of these sets have two defining characteristics: Total number of shipments and resource constraints;

Cannery: CanProduce, Output;

Warehouse: WarProduce, Allocation;

! A derived set maps the warehouses to the canneries, creating the matrix given in the original problem;

! makes sure to get the order right--> row then colum;

! notice that each matrix term has both a cost and an amount;

Links(Cannery, Warehouse): ShipCost, Ship;

ENDSETS

DATA:

! Input the Canneries and their constraints;

Cannery, Output =

 C1 75

 C2 125

 C3 100;

! Input the Warehouses and their constraints;

Warehouse, Allocation =

 W1 80

 W2 65

 W3 70

 W4 85;

! Input the shipping costs per truckload as given in the original shipping cost matrix;

ShipCost = 464 513 654 867

 352 416 690 791

 995 682 388 685;

ENDDATA

! Minimize total cost;

MIN = @SUM(Links: ShipCost\*Ship);

! cannery restraints;

! For each cannery i;

@FOR(Cannery(i):

! sum the warehouse truckloads for every warehouse and set them equal to the output constraint (output);

@SUM(Warehouse(j): Ship(i,j)) = Output(i));

! Warehouse constraints;

! For each machine i;

@FOR(Warehouse(j):

! sum the cannery truckloads for every cannery and set them equal to the output constraint (allocation);

@SUM(Cannery(i): Ship(i,j)) = Allocation(j));