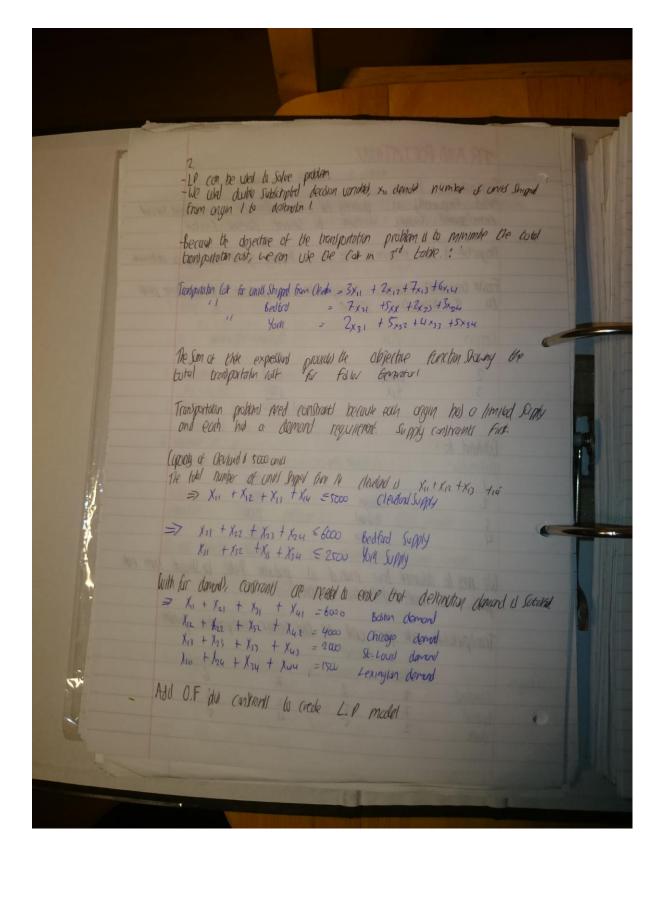
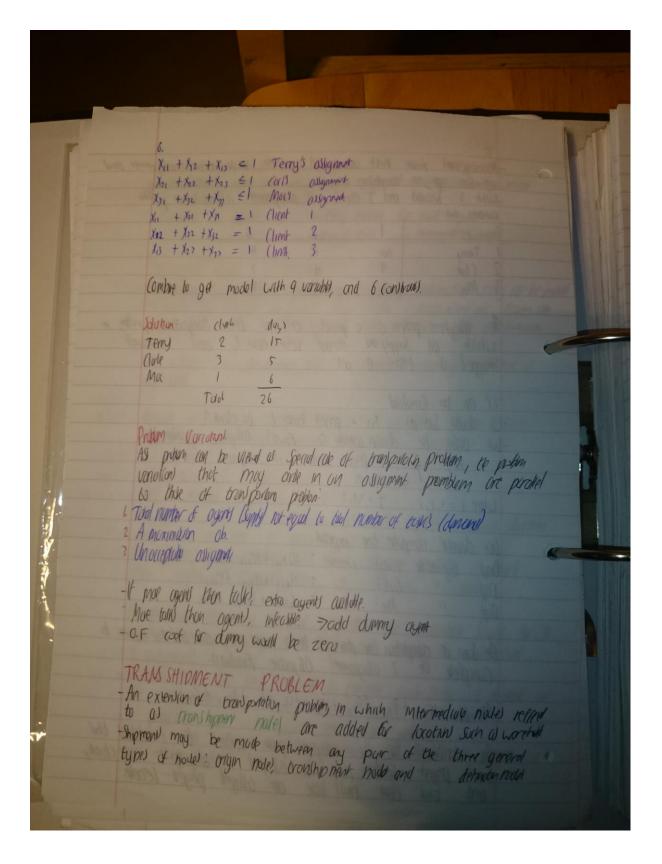
TO MAK DONE AT	
TR AND PORTATION.	
Transportation Proson	
Arbel frequently in planning for the dillivious of goods and served from several supply locations to several demand location	mitter
Objectie is to minimize the cost of shipping goals from origin to dollars	N
Fosta Generators example, Transportation of a product from three plant to 4 distribution centre	
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We need to oddernine how much it its production shall be shipped from each plant to each distribution centre	
Transportation colv per unit our feller General transportation problem?	
The continue was all the continues of th	
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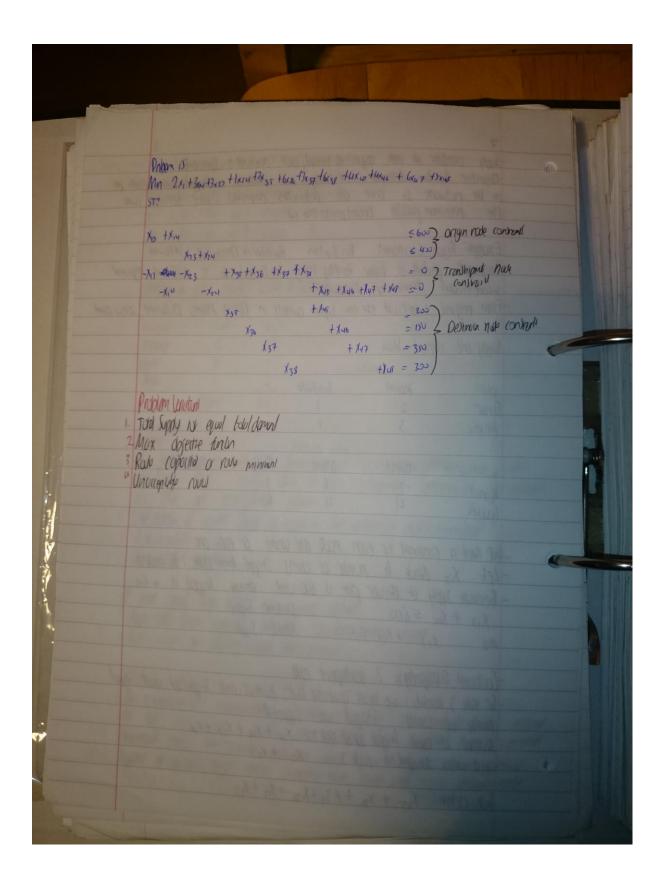
Problem Vanotyp! 1. Total Supply not egyd to total demand 2. Maximoutin of dojective cost. 3. Route capacito or route minimum 4 Un occeptato ruid Total supply 1st equal to total demand -It total supply exceed total demand, no modification in the L.P. & formulation is needs on - Excess Supply will appear as stolk in Et LP Solution -Slock for any particular origin can be interpred at the unuted Supply or amount not Shipped from the argin -If total Supply w less than lotal demand it will than not have a leasthe Solution - We odd a dummy and organ with a supply equal to be different between total demand one supply -A zero coto assigned to each are leaving the dummy origin so that be value of the optimal solution will represent the shipping Cost for the Units ochically Shipped (no shippent actually boundaring angol lungs the optimal solution is implemental, the destinolar showing Supment being recard from the dummy origin will be the deltaration experiency a fortfall, or unsatisfied donord Maximilation Objective Function In some proton, the objective is to maximule, profit or reconce -Using the values for profit or revenue par conit as coefficient in be objective function, we simply maximile rather than a minimular linear pragram - Thu charge day not offer the constraints

Roule Capacities or Route Minimum Formulation can all accompande capacitied or minimum quantities for one or more routs. - Constront in Gorm of X5, 51000 for max copies X 27 7/200 for minimum copociti Unocceptate Rule -Establishing a noute from every origin to every destination may not be possible To nordle this situation, we simply drop the corresponding are from the network and remove the corresponding variable from the LD committee -We remote - X12 for exempt and Solve model entry rout X12 N not wed Known as capacitated transportation grobbers when raige had a min or mix appelly: X32 = " X12 7" ASSIGNMENT PROBLEM - job to muchie, agent to talk #. - We look for a set of assignment that will optimise a stated objection A distinguishing feature of the obsyment problem is that one agent is assigned to one and only one task Pow clients company mult alson ore leader to each dust. +3 individuals acarbible - Realised that the time regional to complete each study will depart on the expensive and obility of each project leader -3 projects have approximately the same priority -wants to minime total number of day to comp

A THE RESIDENCE OF THE PARTY OF THE PARTY.	
-Management must first consideral possible leader-crient assignment and estimate project completion time. With 8 leaders and 3 chemil, nine assignment alterrated as possible tempton assis: Angel leader 1 2 3 L Terry 10 15 9 2 Clae 9 13 5 3. Mac 6 14 3	prin
THE STAN LICENSE IN THE PARTY OF THE PARTY O	
The assignment problem is a special code of the transportation problem, in which all supply and designal valve equal, and amount shipped is either 0 or!	
The can be formulated The duthe Subtract X_{12} = project leader 1 to client 2 The define the deather whith for Faule's assignment proform as: X_{13} for X_{13} the project leade 1 is assigned to client X_{13} . Where X_{13} is X_{13} is X_{13} is assigned to client X_{13} .	16
When $j=1,2,3$ $j=1,2,3$	~
Use develop complete time expected Dash required for terrif's assignment: 10 x,1 + 15x,2 + 9x,3 Dash " Calle's " " " 4x21 + 18x22 + 5x23 Nost " Moc" " 6x31 + 14x32 + 3x33	
The Sam of completion time often for the 3 legated will provide Edd down request to complete the 3 assignment! Objective function is: Min: [Okin + 15x12 + 9x13 + 9x21 + 18x22 + 5x23 + 6x51 + 16x527 + 3x23	
The constraint for the assignment potent reflect the condition that each project leader can be assigned to at most are clean, and that allow must have are assigned project leader.	



Supply civallable of each organ is similed, and demand is specified Objective is to determine how many units should be shipped over each of in the network so that all destinations demands are satisfied with the minimum possible transportation ask. Except Ryon Electronic. Production facilità in Denaronal Attenta -Comparent produit at ellier facility may be shipped to 2 different regional work masses or larisville. - From regural watchould the firm suple cutlets in Delrout, Mornit, Dollward were and Sugger and derived Strin plant Kowal Lousville Donw Atlanu 3 petal cuttel. worker Detroit. Mumi Dully New chars Kana) 2 —We need a constraint for each nock and write for each arc. -Let X- denote be number of whits Shipped from node i to node 7. - Because spay of denser plan o 600 cml anant shiped o 660. X13 + X14 = 600 Denver Sippy and X23 + X24 = 400 Attalk Sipple -Contraril Curalpodin to 2 bandingment root - for rate 3 Karle), we must guarante that hymorofunit shipped out must exal number of unill Shipped into warehot: Number of can't Shipped and note 3 - X35 + X30 + X37 + X32 and units shypullip nate 3 = X3 + X23 We action



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TO .	NOTE OF THE PARTY
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161	- Calcular o penally for each now and column by subtracting the smallest color element in the now or column from the next smallest cut from the since now or column from the - Identify the next of the next since now or column.
	next smullest at four the row or country from the
	Idealog is
7	laying the my or allimn late
	Allo cale as much as pollothe has the greater penally.
	cost in the now of column or cell with the loost
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-Adjust the fine dominal and Supply column dominal or Supply	total) and cross out by is entirely weal	be on a	
If both the row and the column left only and out are	n hat no supply	or demand	pritin
- If all colum) and row hove instruct Solution Otherwise is a column of the row and	been sotisfied to ecolculate the per column without some free demand	ountmy	lant
Pentle fr Von (1) Row 1 9-8=1 Row 2 10-6=4 Row 3 7-6=1			16
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6 Talle VAM 2 Dush 9 11 (Ha) 8 200-40-160 (A) 6 15 10 158 (ratio 7 6(10) 6 0 Aprille) for VAM 3
Raw 3 and Edum 2 satsed Row 1 9-8=1 Row 2 10-6=4* (ym 1 9-6=3 (dum 3 10-8=2 **Modeled Shyo Athlor Supply **Modeled Shyo Shyo Athlor Supply **Modeled Shyo Shyo Shyo Shyo Shyo Shyo Shyo Shyo
Cheany for Optimality The initial tape more has MHN-1 cells original to enable a wild solven to be fairly m-rad N=radin If it doesn't beno zero amout s put into empty cells until ay obose condition is sotisfied. There is no rate for which cells but a larget on it man poken There is no rate for which cells but a larget on it man poken.

Stepping Slop termine -lows at each of the until cells in tun to find a better nous - As pichom is linear, It use one unit of a time and liceeps a abled loop MODI - Modified Distribution Method mool mental is on allemotive to the slepping store technique and a often less cumbersone for larger problem? In method we have a variable U; associated with each row and a Similar UT associated with each column For every rouse in the table which is being and, the unit rost of that raile is equal to the sum of the U vote of the now and the V vole of the column -Hence U,+V; = Cis for a cell which I being well -We calculate the and is volve by assigning on arbitrary volve to a of Dem and then solve the remaining equilin Gir - U; tur for be oxigad rell! - We can proof be cor change or the united all libe: cost improcess for united cell = Cis - Vi - Vs. - Therful when we have colleged the Ur and Us valued we can go on to culculate the cost improvement potential for earn of to unuled cells The orbitary we we would assign 110 to a - Mul) will ofter performing on linked Boll lealing solver the loans

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St up eg? or agrel (ell) (ny-zm)
$R_1 + K_1 = 9$ Let $R_1 = 0 \Rightarrow K_1 = 9$ Collade Surry by $K_1 + K_2 = 2$ $R_1 + K_2 = 11$ $R_2 + K_1 = 17$ $R_2 + K_3 = 10$ $K_3 = 6$ Select $K_1 = 0$ $K_2 = 0$ $K_3 = 0$ $K_4 = 0$ $K_4 = 0$ $K_5 = 0$ $K_7 = 0$ $K_8 = 0$
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$G \Rightarrow W = 7 - 0 - 9 = -2$ $G \Rightarrow S = 6 - 11 - 0 = -5$ $D \Rightarrow A = 8 = 6 - 0 = 2$	
$K_1 = 9$ $K_2 = 11$ $K_3 = 13$	
R ₂ = -3 C 100+30 7 6 100 6 100	16
April 180 140 130	
G →W 75-9=3 C→S 15-113=7	~
$G \rightarrow S$ 65-11 = 0 $D \rightarrow A$ (8-0-13 = -5) $k_1 = 9$ $k_2 = 8$	
3. W 9 140 1 30 12 200	
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