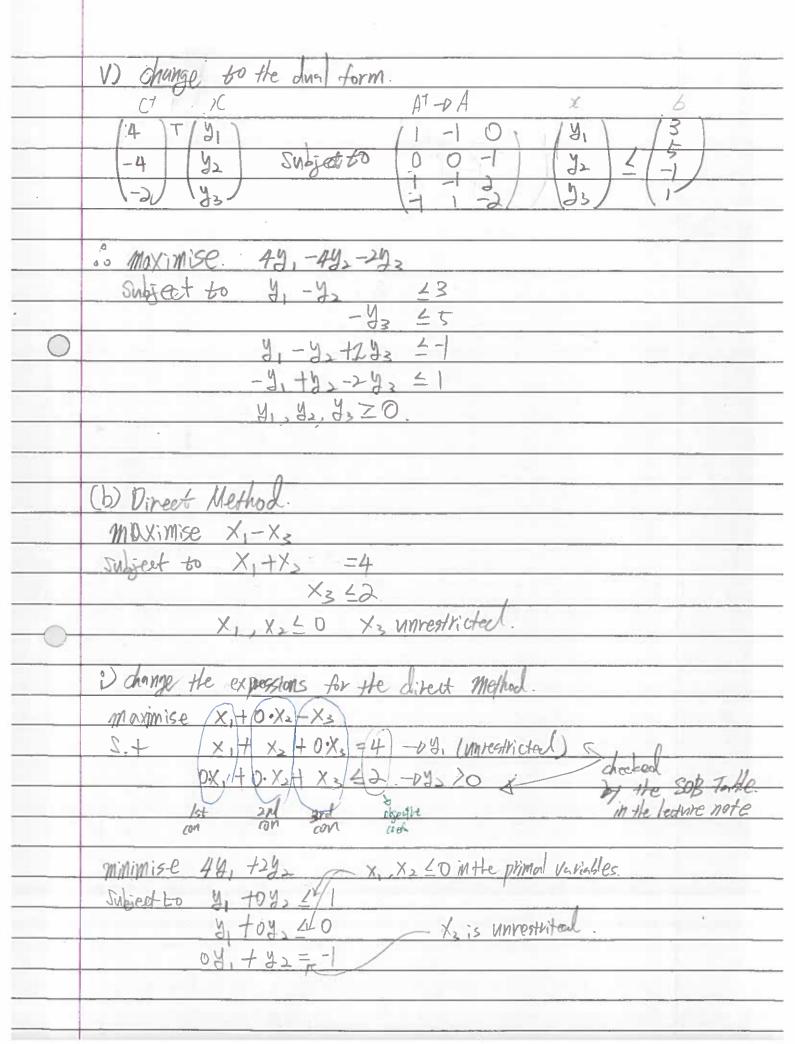
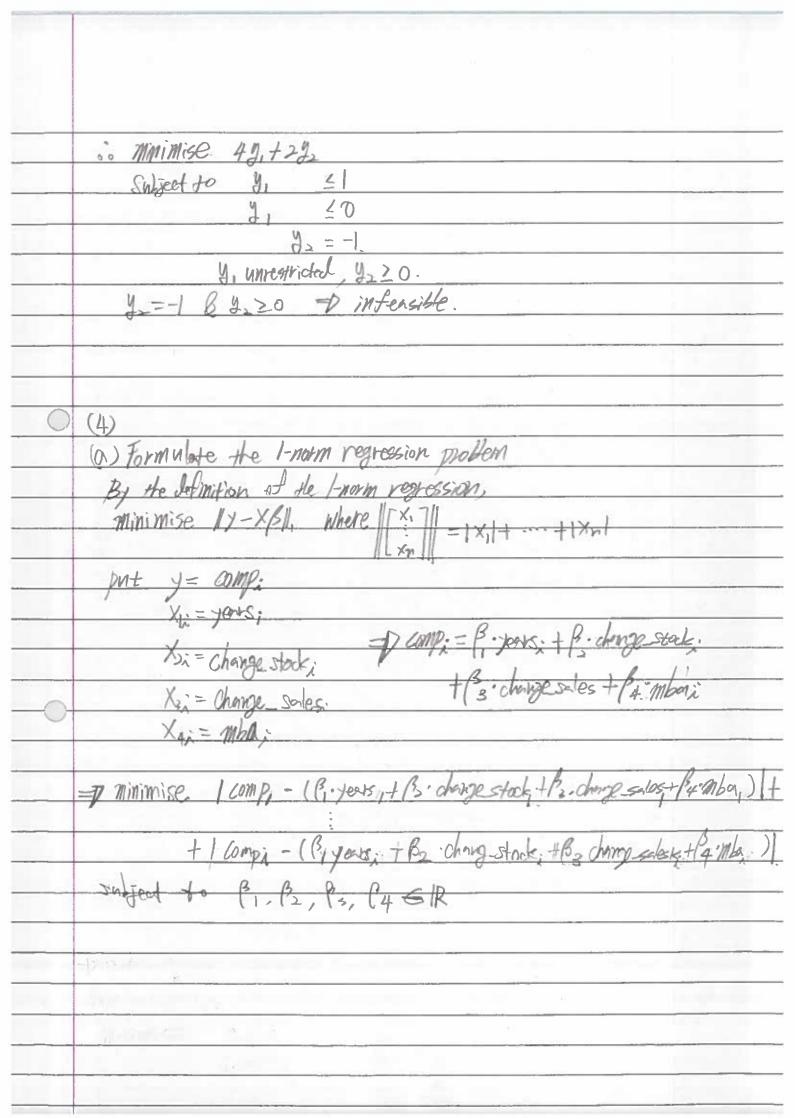
	AWZ.
	Seonomin Lee (CID: 01247436)
	(a) Indirect Method.
	minimise 3×1+5×2-×3
	$S.+. \qquad X_1 \qquad + \times_3 = 4$
	X2 - 2X3 < 2
	X, X 2 20, X3 NAMESTICTEL.
	115/220 3/3/01/01/01/02
	i) equality - v inequality
0	X1+X3=4-D X1+X3 = 4
	X1-1 x3 < 4
	ii) reverse the sign of inequality to 2
	X, + X ₃ Z 4 (ok) -X, +X ₃ Z 4 -X, -X, -X, -X, -Z -4
	-X, +X3 × 4 -X, -X, -X, Z-4
	-X2-2X3 < 2 -x -x + 2X3 > -2
-0-	00:) X3 = x3 - x2 . where x2, x2>0
	objective f_{N_0} minimise $3X_1+5X_2-X_3^{+}-X_3^{-}$ Subject to X_1 $+X_3^{+}-X_3^{-}\geq 4$
× Hard	Subject to \times , $+\times_3^+-\times_3^- \ge 4$ Test Ax \le $-\times$, $-\times_3^++\times_3^- \ge 4$
	y st ATYZCx + 2x = -2x 2-2
7,111.7	X, X2, X2, X->0
	IV.) The Matrix form of the primal problem. is as below:
	bt & AT & c
	13 /T X1 24. 1(X1 /4)
	5 X2 101-1 X2 2-4
	-1/X3/-10-11/X3/-2/
	(-1) 1/2 / 0-1 3-5/ (X3)





	reformulate as
	subject to A = 1 comp, - (Pi xous, + B. change stock + B. change sales, + B. mban)
	Bn = (Comp; - (B. 10+5; + B. change stock, +B. change soles; Kimba;)
	B., B, In 6/R.
	To change equality to inequality (2) in minimisation practions
0	We can re-write ex. $\theta = a-b $ to $\theta \ge (a-b)$ and $\theta \ge -(a-b)$.
1	There-fore, the I norm inor program is as blew;
	Decision Variables: P. B. B. B. P. E/R Minimize O, + Ast + An
	Subject to. 012 comp (P. years: + B. chang_stock: + P. chang_subs: + Painton.) - comp.
	V; =1, 2, ··· N
	b) The Ample file is attached in the Hub.
	The Abjective value is 14652.83, which is the total residuals Out 3, for years = 169.274
	B for drive stock = 2.41
	Bs for change stack = 2.41 Bs for change sales = -0.1425
	B4 for mba = 32.5.

	(c) Infinite norm regression
	Consider the definition of norm, We can extend it to infinite level
	X _n="[x, n+ x]"++ x, " [not men form]
	is n Do , the largest number among x.1" x. m will be survived.
	Therefore, we can generalize it as below. ex 1/21/2=0/11/04/100/00
	X = max (x1 Xx) = 00 [100] = 1001.
	$= \frac{1000}{1000} = 1001$
	If we apply the move methal to the regression, we can re-write
0	re-write.
	minimise 1/y-x81/00 (>> max (14,-x,B1, 14,-x,B1)
	So, we can put 9=4-XB
	$\Theta = \max(\theta_1, \theta_2, \dots, \theta_i)$
***	Where A: = 1 Comp: - (B. years: + B: change stack: + B: change sales: + B. mba;))
	To re-summary
	minimise 0
	Subject to $\theta = \max(\theta_1, \theta_2, \cdots, \theta_i)$, where $\theta_i = \gamma_i - \chi_i $
	By relaxing the equality in that I is groter or eated than Di Dn.
	minimise of the number of comp.
111	minimise θ the number of comp. Subject to $\theta \ge 1/x_i\beta_i$, $\forall i=150$.
	Finally, we can remove the absolute value operator to re-tormulate
	the LP as behow
	mmimise 0
	Subject to OZ/i-XiB
	DZ-(/i-XiB) ¥i=156.