Assignment 4
TARREST ATTENDED
SSANSAND WILLIAM WILLIAM STATES
And a) Minimize z= n, -n2 + 3n3
Subject to:
$(i) n_1 + n_2 + n_3 \le 10$
(ii) 2n,-n2-n3 ≤ 2
(iii) 2n, -2n, -3n, ≤6
-x0
$n_1, n_2, n_3 \geqslant 0$
Solution
Minimize Z= n, -n, +3n3 + on, +0n5 +0n6
Minimize Z= n, -n, + 3 ng + on, + on = + on
Judgiet to:
$(i) n_1 + n_2 + n_3 + n_4 = 10$
$(ii) 2n_1 - n_2 - n_3 + n_5 = 2$
$(iii) 2n_1 - 2n_2 - 3n_3 + n_6 = 6$
OF THE REAL PROPERTY.
indual form
Manininge 10 = 10 y, + 2 y, + 6 y,
Judgiet to: (i) y, + 24, + 24, 51
(ii) y, - y, - 2 y, ≤-1
(iii) y, -y, -3y, ≤3
(iv) y +0y2 +by2 ≤0 ]
(V) Oy, + y2 + Oy3 ≤0 >> y1, y2, y3 ≤0
(Vi) 0 y, +0 y 2 + y 60
y, y, y, are unrestricted

	T 10 10 10 10 10 10 10 10 10 10 10 10 10
(b) Maninize z = 3n, -2n > +4n3	Mary - Park
Subject to:	38.083033
(i) 3 n, + 5n 2 + 4n 3 > 7	NOST-REM
ii) 6n, +n2+3n3 >/4	
(iii) 7n1-2n2-n3 ≤10	
(iv) n1-2n2+5n373	
(V) 4n1+7n2-2n3/2	with the End
n1, n2, n370	Winkel of
141 121 370	
alle to le de la lantinu	idenina pertitional
solution Connenting into equ form (not con van	in any
Manininge 7=32, -222+423+024+02	5 10 21 - 0x3
	- Ong
subject to:	7
	7-)
$(ii)$ $6n_1 + n_2 + 3n_3 - n_5 = 4$	Complement
(m) 7n, -2n, -n, +n6 =	0
(iv) n1 - 2n2 +5n3 - n2 =	3
$(v)$ $4n_1 + 7n_2 - 2n_3 - n_8 = 3$	Quest (in)
Amaria Description	- Let his
n1, n2, n3, n4, n5, n6, n7, n, 70	
	at but i
Dual four: Minimize W = 7y, +4y, +10y, +	34, +24-
Subject to:	14 03
11 34.11 17 10 144 52	
iii) 54, +x, -24, -24, +74-7/-2	
(iii) 44, +34, -4, +54, -24 = 74	
(iv) -4, 00 3 34 JS 7/07	
	4. 4. 4. 4. 50
(vi) 43 >0	42 × 184185 ≤0
-44	y3>0
(***)	Chinal
y, y, y, y, y, y, unerestimeted	Spiral

(c) Minimize $Z = n_1 - 3n_2 - 3n_3$ Subject to:
Subject to:
$(1) 3n_1 - n_2 + 2n_3 = +$
$(ii) 2n_1 - 4n_2 \gg 12$
$(iii) - 4n_1 + 3n_2 + 8n_3 = 10$
$(iii) - 4n_1 + 3n_2 + 8n_3 = 10$ $n_1, n_2 \geqslant 0, n_3 \text{ unrestricted}$
Solution connecting into equ form:  Since no is uneverticated, we write no = no - no one do not consider artificial variables here, as they do not affect the dual form.
Time no is uncustincted, we write no = no - no
me do not consider antificial variable here, as they
do not affect the dual form.
Mininge Z = n, -3n2 -3n3 +3n3 +0n4 +0n5
Subject to
(i) $3n_1 - n_2 + 2\bar{n}_3 - 2n_3^{\dagger} + n_4 = 7$
$(ii) 2n_1 - 4n_2 - n_1 = 12$
$(\ddot{u}) 2n_1 - 4n_2 - n_5 = 17$ $(\ddot{u}) - 4n_1 + 3n_2 + 8n_3 - 8n_3^{\dagger} = 10$
n1, n2, n3, n3, n4, n5 70
: Dual form: Manining w = 74, +124, +104.
Subject to
(i) $3u + 2u - 4y \le 1$
(ii) -4, -44 +342 ≤-3
ilin du +84 = -37 = 24. +84 = -3
(iv) -24 -84 53 ]
(Y) $(Y)$ $(X)$ $(Y)$
vi - 4 ≤0 > 91 ≤0, y2>0
yo unsuctivited
41, 4, 42 uneverterited
017 021 03 00000000000000000000000000000000

= (a) Manininge z = -3n, -2n2 (4) n,+n2 >1 (ii) n1+n2 57 (m) n1+2n2 310 (IV) x 2 6 3 n1) n27/0 Solution: Commenting all constraints to & type and then into equation folium. Manining Z = -3n, -2n2 (1) -n1-n2+n3=-1 (ii) n1+n2+n4=7 (iii) -n, -2n2 +n5 = -10 (W) n2 +n6 = 3 ny no no solution 7/2 7/3 Barie 24 -2 25 .0 0 0 ni 0 Ratio no no ny no no Solution ni Basic 0 1 0 -1/2 0 ni 1/2 0 0 -1/2 nz 26 Ratio

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