

Week-3

Lecture-4

DATE _____
PAGE NO. _____

Max. $10x_1 + 9x_2$

s.t. $x_1 - x_2 \leq 5$

$4x_1 \leq 24$

$x_1, x_2 \geq 0$

Max $10x_1 + 9x_2$

s.t. $x_1 - x_2 + x_3 = 5$

$4x_1 + x_4 = 24$

$x_1, x_2, x_3, x_4 \geq 0$

C_B	x_B	x_1	x_2	x_3	x_4	RHS	θ
0	x_3	(1)	-1	1	0	5	5 \rightarrow
0	x_4	4	0	0	1	24	6
$C_j - Z_j$		10	9	0	0	0	

C_B	x_B	x_1	x_2	x_3	x_4	RHS	θ
10	x_1	1	-1	1	0	5	X
0	x_4	0	4	-4	1	4	1 \rightarrow
$C_j - Z_j$		0	19	-10	0	50	

C_B	x_B	x_1	x_2	x_3	x_4	RHS	θ
10	x_1	1	0	0	1/4	6	X
9	x_2	0	1	-1	1/4	1	X
$C_j - Z_j$		0	0	9	-19/4	69	

x_3 Coming again

→ Variable trying to come to sol but no variable can leave.

→ Algo. will terminate and shows unboundedness

What is unboundedness?

