

prob

min  $2x_1 + x_2 + x_3$

$$x_1 + x_2 \leq 3$$

$$-x_1 + 2x_2 \leq -1 \Rightarrow$$

$$-x_2 - x_3 \leq -4$$

$$x_1 + x_2 + x_4 = 3$$

$$-x_1 + 2x_2 + x_5 = -1$$

$$-x_2 - x_3 + x_6 = -4$$

	$x_1$	$x_2$	$x_3$	$x_4$	$x_5$	$x_6$	b
$R_1$ $x_4$	1	1	0	1	0	0	$\frac{3}{3}$
$R_2$ $x_5$	0	1	0	0	1	0	-1
$R_3$ $x_6$	0	-1	-1	0	0	1	-4
$R_0$ $x_0$	2	1	1	0	0	0	0
(C <sub>0</sub> -Z <sub>0</sub> ) Ratio	$-\frac{0}{2}$	$-\frac{C_1}{1}$	$-\frac{C_2}{1}$	0	0	0	0

→ choose the most negative i.e.  $x_6$  is leaving

↳ Here we know that  $x_6$  is leaving.  
i.e. for Row 3, we calculate the ratio  
 $R_3 \rightarrow$  only pick negative element.

note: for the ratios we have,

choose  $R_3$  as  $x_6$  is leaving

$R_3 = 0$     -1    -1    -1    0    0    0    1

$R_0 = 2$     1    1    1    0    0    0    0

$-\frac{R_3}{R_0} = -\frac{0}{2}$      $-\frac{-1}{1}$      $-\frac{-1}{1}$      $-\frac{-1}{1}$     0    0    0    0

↳ i.e.  $x_3$  is entering