

$$\begin{array}{c|cccc|c}
 S_1 & 3 & 2 & 1 & 0 & 6 \\
 S_2 & -3 & \textcircled{2} & 0 & 1 & 0 \\
 \hline
 & -2 & -2 & 0 & 0 & 0 \\
 & \uparrow & \uparrow & & & 
 \end{array}$$

$$\begin{array}{c|cccc|c}
 & 6 & 0 & 1 & -1 & 6 \\
 & -3/2 & 1 & 0 & 1/2 & 0 \\
 \hline
 & -5 & 0 & 0 & 1 & 0 \\
 & \uparrow & & & & 
 \end{array}$$

$$\begin{array}{c|cccc|c}
 x_1 & 1 & 0 & 1/6 & -1/6 & 1 \\
 x_2 & 0 & 1 & 1/4 & 1/4 & 3/2 \\
 \hline
 & 0 & 0 & 5/6 & 1/6 & 5
 \end{array}$$

Mens de ante  $1/4 S_1 + 1/4 S_2 \geq 1/2$

$$\begin{bmatrix} 3 & 2 \\ -3 & 2 \end{bmatrix} * \begin{bmatrix} 1/4 & 1/4 \\ 1/6 & -1/6 \end{bmatrix} =$$

$$= \begin{bmatrix} & \\ & \end{bmatrix}$$

$$\begin{aligned}
 3/4 + 1/3 &= \\
 + 1/22 & \\
 3 + 1/22 & \\
 6 - 5 &
 \end{aligned}$$

$$\begin{array}{c|ccccc|c}
 & x_1 & x_2 & s_1 & s_2 & s_3 & \\
 \hline
 x_1 & 1 & 0 & 1/6 & -1/6 & \emptyset & 1 \\
 x_2 & 0 & 1 & 1/4 & 1/4 & \emptyset & 3/2 \\
 \hline
 s_3 & 0 & 0 & -1/4 & \textcircled{-1/4} & +1 & -1/2 \leftarrow \\
 \hline
 & 0 & 0 & 5/6 & 1/6 & \emptyset & 5 \\
 & & & (20/6) & (1/4) & & 
 \end{array}$$

$$\begin{array}{c|ccccc|c}
 & x_1 & x_2 & s_1 & s_2 & s_3 & \\
 \hline
 x_1 & 1 & 0 & 1/3 & 0 & -2/3 & 4/3 \\
 x_2 & 0 & 1 & 0 & 0 & 1 & 1 \\
 s_2 & 0 & 0 & 1 & 1 & -4 & 2 \\
 \hline
 & 0 & 0 & 2/3 & 0 & 2/3 & 14/3
 \end{array}$$

Branch em  $x_1$

$$x_1 \leq 1$$

$x_1$	1	0	$1/3$	0	$-2/3$	$= 4/3$
$x_1$	1	0	0	0	0	$= 1$
	0	0	$-1/3$	0	$2/3$	$1 - 1/3$

	$x_1$	$x_2$	<del><math>S_1</math></del>	$S_2$	$S_3$	$S_4$	
$x_1$	1	0	$1/3$	0	$-2/3$	0	$4/3$
$x_2$	0	1	0	0	1	0	1
$S_2$	0	0	1	1	-4	0	2
$S_4$	0	0	$(-1/3)$	0	$2/3$	1	$-1/3$ ←
	0	0	$2/3$	0	$2/3$	0	$14/3$

	$x_1$	$x_2$	$S_1$	$S_2$	$S_3$	$S_4$	
$x_1$	1	0	0	0	0	1	1
$x_2$	0	1	0	0	1	0	1
$S_2$	0	0	0	1	-2	3	1
$S_1$	0	0	1	0	-2	-3	1
	0	0	0	0	2	2	4

$\left. \begin{array}{l} \text{2 Relaxação Linear} = 5 \\ \text{2 apro' plano corte} = 14/3 \\ \text{2 apro' branch} = 4 \end{array} \right\} \text{ Solução ótima.}$

Menos de metade em função das variáveis originais

$$\frac{1}{4} S_1 + \frac{1}{4} S_2 \geq \frac{1}{2}$$

$$S_1 + S_2 \geq 2$$

$$(6 - 3x_1 - 2x_2) + (0 + 3x_1 - 2x_2) \geq 2$$

$$-4x_2 \geq -4$$

$$x_2 \leq 1$$