$\min c^\top x$ subject to $Ax = b$, $x \geq 0$ where

$$A = \begin{bmatrix} \quad \end{bmatrix}, \quad b = \begin{bmatrix} \quad \end{bmatrix}, \quad c = \begin{bmatrix} \quad \end{bmatrix}$$

$$\mathcal{B} = \{ \quad \}, \quad B = \begin{bmatrix} \quad \end{bmatrix}, \quad c_B = \begin{bmatrix} \quad \end{bmatrix}, \quad \underline{Bx_B = b} \implies x_B = \hat{b} = \begin{bmatrix} \quad \end{bmatrix}$$

$$\mathcal{N} = \{ \quad \}, \quad N = \begin{bmatrix} \quad \end{bmatrix}, \quad c_N = \begin{bmatrix} \quad \end{bmatrix}$$

$$\underline{B^\top y = c_B} \implies y = \begin{bmatrix} \quad \end{bmatrix} \implies \underline{\hat{c}_N = c_N - N^\top y} = \begin{bmatrix} \quad \end{bmatrix}$$

$\hat{c}_N \geq 0$?: stop, optimum

$\hat{c}_N$ $\xrightarrow{\text{index from } \mathcal{N}}$ (of min) entering $t = \square$ $\to$ $\underline{B\hat{A}_t = A_t} \implies \hat{A}_t = \begin{bmatrix} \hat{a}_{1,t} \\ \vdots \\ \hat{a}_{m,t} \end{bmatrix} = \begin{bmatrix} \quad \end{bmatrix}$

$\hat{A}_t \leq 0$?: stop, unbounded

$\left\{ \frac{\hat{b}_i}{\hat{a}_{i,t}} \right\} = \{ \quad \}$ $\xrightarrow{\text{index from } \mathcal{B} \text{ of}}$ (min over $\hat{a}_{i,t} > 0$) leaving $s = \square$

$$\mathcal{B} = \{ \quad \}, \quad B = \begin{bmatrix} \quad \end{bmatrix}, \quad c_B = \begin{bmatrix} \quad \end{bmatrix}, \quad \underline{Bx_B = b} \implies x_B = \hat{b} = \begin{bmatrix} \quad \end{bmatrix}$$

$$\mathcal{N} = \{ \quad \}, \quad N = \begin{bmatrix} \quad \end{bmatrix}, \quad c_N = \begin{bmatrix} \quad \end{bmatrix}$$

$$\underline{B^\top y = c_B} \implies y = \begin{bmatrix} \quad \end{bmatrix} \implies \underline{\hat{c}_N = c_N - N^\top y} = \begin{bmatrix} \quad \end{bmatrix}$$

$\hat{c}_N \geq 0$?: stop, optimum

$\hat{c}_N$ $\xrightarrow{\text{index from } \mathcal{N}}$ (of min) entering $t = \square$ $\to$ $\underline{B\hat{A}_t = A_t} \implies \hat{A}_t = \begin{bmatrix} \hat{a}_{1,t} \\ \vdots \\ \hat{a}_{m,t} \end{bmatrix} = \begin{bmatrix} \quad \end{bmatrix}$

$\hat{A}_t \leq 0$?: stop, unbounded

$\left\{ \frac{\hat{b}_i}{\hat{a}_{i,t}} \right\} = \{ \quad \}$ $\xrightarrow{\text{index from } \mathcal{B} \text{ of}}$ (min over $\hat{a}_{i,t} > 0$) leaving $s = \square$

$\mathcal{B} = \{ \quad \}$, $B = [\quad]$, $c_B = [\quad]$, $\underline{Bx_B = b} \implies x_B = \hat{b} = [\quad]$

$\mathcal{N} = \{ \quad \}$, $N = [\quad]$, $c_N = [\quad]$

$\underline{B^\top y = c_B} \implies y = [\quad] \implies \underline{\hat{c}_N = c_N - N^\top y} = [\quad]$

$\boxed{\hat{c}_N \geq 0\text{ ?: stop, optimum}}$ $\hat{c}_N$ $\xrightarrow[\text{of min}]{\text{index from } \mathcal{N}}$ $t = \boxed{}$ (entering) $\rightarrow \underline{B\hat{A}_t = A_t} \implies \hat{A}_t = \begin{bmatrix} \hat{a}_{1,t} \\ \vdots \\ \hat{a}_{m,t} \end{bmatrix} = [\quad]$

$\boxed{\hat{A}_t \leq 0\text{ ?: stop, unbounded}}$ $\left\{ \frac{\hat{b}_i}{\hat{a}_{i,t}} \right\} = \{ \quad \}$ $\xrightarrow[\text{min over } \hat{a}_{i,t} > 0]{\text{index from } \mathcal{B} \text{ of}}$ $s = \boxed{}$ (leaving)

$\mathcal{B} = \{ \quad \}$, $B = [\quad]$, $c_B = [\quad]$, $\underline{Bx_B = b} \implies x_B = \hat{b} = [\quad]$

$\mathcal{N} = \{ \quad \}$, $N = [\quad]$, $c_N = [\quad]$

$\underline{B^\top y = c_B} \implies y = [\quad] \implies \underline{\hat{c}_N = c_N - N^\top y} = [\quad]$

$\boxed{\hat{c}_N \geq 0\text{ ?: stop, optimum}}$ $\hat{c}_N$ $\xrightarrow[\text{of min}]{\text{index from } \mathcal{N}}$ $t = \boxed{}$ (entering) $\rightarrow \underline{B\hat{A}_t = A_t} \implies \hat{A}_t = \begin{bmatrix} \hat{a}_{1,t} \\ \vdots \\ \hat{a}_{m,t} \end{bmatrix} = [\quad]$

$\boxed{\hat{A}_t \leq 0\text{ ?: stop, unbounded}}$ $\left\{ \frac{\hat{b}_i}{\hat{a}_{i,t}} \right\} = \{ \quad \}$ $\xrightarrow[\text{min over } \hat{a}_{i,t} > 0]{\text{index from } \mathcal{B} \text{ of}}$ $s = \boxed{}$ (leaving)