[12] **4.** In the process of solving "$\max \left\{ c^T x \; : \; Ax = b, \; x \geq 0 \right\}$" by the Revised Simplex Method (RSM), where

$$
A = \begin{bmatrix} 3 & 1 & -1 & -1 & 1 & 0 & 0 \\ 1 & -1 & -2 & -1 & 0 & 1 & 0 \\ 1 & 0 & 0 & -1 & 0 & 0 & 1 \end{bmatrix}, \qquad b = \begin{bmatrix} -2 \\ -3 \\ 2 \end{bmatrix},
$$

$$
c^T = \begin{bmatrix} 2 & 1 & -2 & -1 & 0 & 0 & 0 \end{bmatrix}
$$

we encounter the current basis $\mathcal{B} = \{3, 4, 7\}$. **Use the RSM** to complete the following tasks.

(a) Find the current Basic Feasible Solution x, and its objective value.

(b) Find the next entering variable (if there is one).

(c) Find the next leaving variable (if there is one).

(d) Find the new basic feasible solution after one pivot.