Solution No 2:

Minimize $\quad Z = A_1 + A_2$

Subject to

$$2x_1 + x_2 + A_1 = 4$$
$$x_1 + 7x_2 + A_2 = 7$$
$$x_1, x_2, A_1, A_2 \geq 0$$

Solution No 3:

Minimize $\quad Z = A_1 + A_2$

Subject to

$$3x + y + A_1 = 3$$
$$4x + 3y - S_1 + A_2 = 6$$
$$x + 2y + S_2 = 4$$
$$x, y, A_1, A_2, S_1, S_2 \geq 0$$

where

$$A_1 = 3 - 3x - y$$
$$A_2 = 6 - 4x - 3y + S_1$$

Since the objective function is expressed in terms of basic variables so to transform these into non basic Pu

A_1 *and* A_2 *from constraints into objective function.*

$$Z = 3 - 3x - y + 6 - 4x - 3y + S_1$$
$$Z = 9 - 7x - 4y + S_1$$

Solution No 4:

Minimize $\quad Z = A_1 + A_2$

subject to

$$2x_1 + x_2 + 2x_3 + A_1 = 4$$
$$3x_1 + 3x_2 + x_3 + A_2 = 3$$
$$x_1, x_2, x_3, A_1, A_2 \geq 0$$