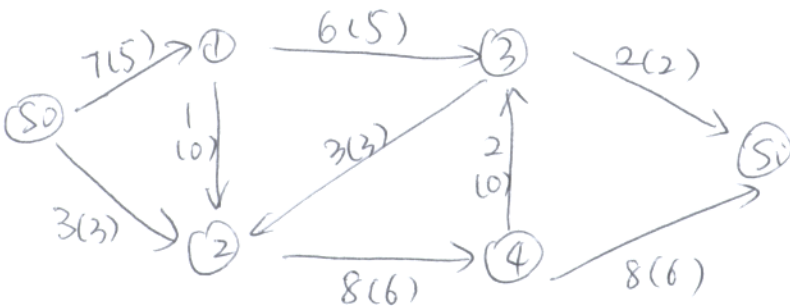
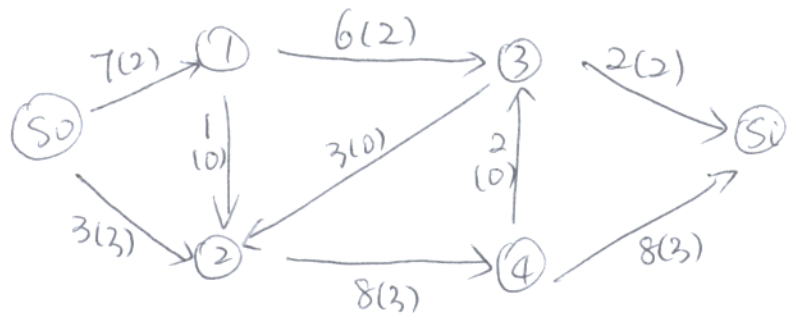
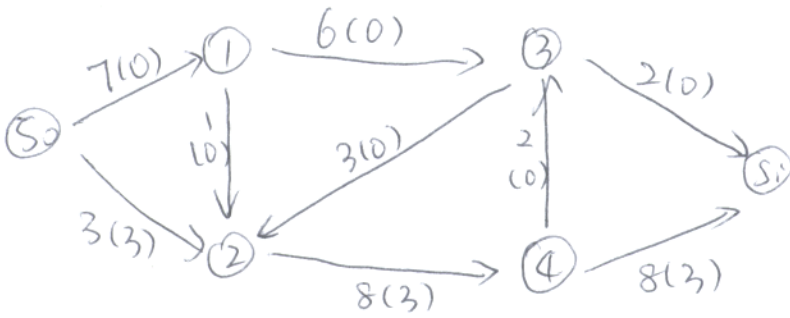
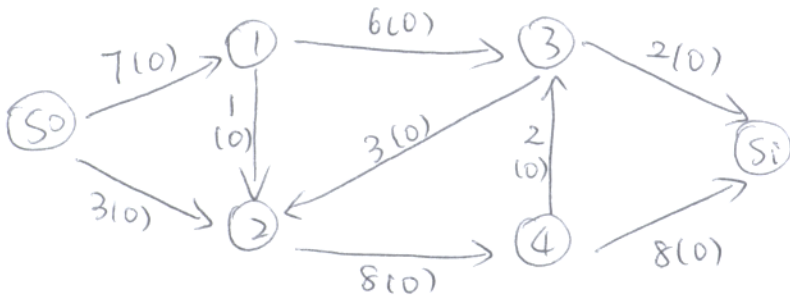
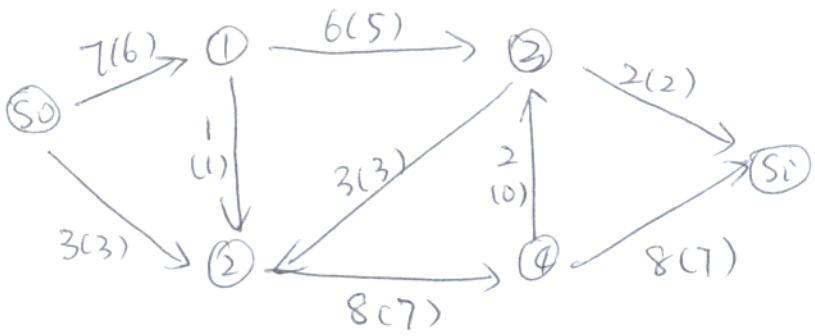


Page 424. Figure 22.





LP: $\max x_{i0}$

s.t. $x_{01} + x_{02} - x_{i0} = 0$

$x_{01} - x_{12} - x_{13} = 0$

$x_{02} + x_{12} + x_{32} - x_{24} = 0$

$x_{13} + x_{43} - x_{32} - x_{3i} = 0$

$x_{43} + x_{4i} - x_{24} = 0$

$x_{3i} + x_{4i} - x_{i0} = 0$

$x_{01} \leq 7$

$x_{02} \leq 3$

$x_{12} \leq 1$

$x_{13} \leq 6$

$x_{24} \leq 8$

$x_{32} \leq 3$

$x_{43} \leq 2$

$x_{3i} \leq 2$

$x_{4i} \leq 8$

All $x_{ij} \geq 0$.

Dual

$$\min 7y_7 + 3y_8 + y_9 + 6y_{10} + 8y_{11} + 3y_{12} \\ + 2y_{13} + 2y_{14} + 8y_{15}$$

$$\text{S.t.} \quad y_1 + y_2 + y_7 \geq 0 \\ y_1 + y_8 \geq 0 \\ -y_2 + y_3 + y_9 \geq 0 \\ -y_2 + y_4 + y_{10} \geq 0 \\ -y_3 - y_5 + y_{11} \geq 0 \\ -y_4 + y_3 + y_{12} \geq 0 \\ -y_4 + y_6 + y_{13} \geq 0 \\ y_4 + y_5 + y_{14} \geq 0 \\ y_5 + y_6 + y_{15} \geq 0 \\ -y_1 - y_6 \geq 1$$

$$y_1, \dots, y_6 \quad \text{u.r.s.}$$

$$y_7, \dots, y_{15} \geq 0$$

Optimal

$$y_3 = -1, \quad y_5 = 1, \quad y_6 = -1$$

$$y_8 = 1, \quad y_9 = 1, \quad y_{12} = 1, \quad y_{13} = 1$$

$$\text{others} = 0$$