

CLRS 15.1-5

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$$l_1[j] = 2 \rightarrow f_1[j-1] + a_{1,j} > f_2[j-1] + t_{2,j-1} + a_{1,j} \quad (1)$$

$$\leftrightarrow f_1[j-1] > f_2[j-1] + t_{2,j-1} \quad (2)$$

$$l_2[j] = 1 \rightarrow f_2[j-1] + a_{2,j} > f_1[j-1] + t_{1,j-1} + a_{2,j} \quad (3)$$

$$\leftrightarrow f_2[j-1] > f_1[j-1] + t_{1,j-1} \quad (4)$$

$$t_{i,j} \geq 0 \rightarrow f_1[j-1] > f_2[j-1] + t_{2,j-1} \geq f_2[j-1] > f_1[j-1] + t_{1,j-1} \quad (5)$$

$$\leftrightarrow f_1[j-1] > f_1[j-1] + t_{1,j-1} \quad (6)$$

(6) is a contradiction; which shows that $l_i[j] = (2, 1)$ cannot be true without negative transfer costs.