Use the Greedy algorithm for the initial matrix. In the tableaus, circle the values of the basic variables.
Put +’s and −’s on the squares of a loop. Shade a loop’s start.

Page 299

12(10) The supply vector is \([75, 50, 60]\), the demand vector is \([45, 50, 25, 50]\) and the shipping costs are

\[
\begin{array}{cccc}
5 & 6 & 7 & 4 \\
2 & 9 & 7 & 5 \\
8 & 5 & 8 & 7 \\
\end{array}
\]

Note: Total supply = 185 > demand = 170
Fill in the initial transportation matrix.

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Fill in the first and last transportation tableau.

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Min shipping cost = \(
\begin{array}{cccc}
5 & 6 & 7 & 4 \\
2 & 9 & 7 & 5 \\
8 & 5 & 8 & 7 \\
\end{array}
\) at (give the nonzero amounts)

By how much should supply production be cut back at

\(S_1\) \(S_2\) \(S_3\)

Homework continued on the back side.
For each problem use the Hungarian Algorithm to either put stars on \( n \) noncolinear 0’s or to draw \(< n\) lines which cover all 0’s.

Be careful to follow the algorithm exactly.
Draw in the lines and *’s called for by the algorithm.
Mark 0-0* paths with dotted lines.
When a choice has to be made, always choose the first. For rows, first means highest; for columns, first means leftmost.

**Number the lines 1,2,3,... in the order they were drawn.**
No credit will be given for answers not obtained by the algorithm.
For these simple problems, it’s easier to see an answer than to run the algorithm.

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6(2) The first three steps have been done for you (ignore the fact that they weren’t done according to the algorithm).
**Apply the algorithm to finish the problem.**
This exercise shows that the algorithm is somewhat “stable”, i.e., it can recover from errors.

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