

Steps to solve Transportation Problem

1. Find an initial BFS using any of the methods. Enter the allocated value at the center of the cells.
2. For all the basic variables (cells having allocations), solve the equations $c_{ij} = u_i + v_j$, starting initially with some $u_i = 0$ and entering successively the values u_i and v_j
3. Compute the cost differences $d_{ij} = c_{ij} - u_i - v_j$ for all the non-basic cells and enter them in the lower right corners of the cells
4. Apply the optimality test:
 - (a) If all $d_{ij} \geq 0$, the current BFS is optimal
 - (b) If at least one $d_{ij} < 0$, select the cell having the most negative d_{ij} as the entering B.V.
5. Write a $\boxed{+}$ to indicate the entering B.V. Form a loop starting from $\boxed{+}$, which connects only some basic cells. Write alternating + and - signs just above the allocations in the loop. Cells having '-' are called the donor cells and the cells having '+' sign are called recipient cells.
6. From the - signs, choose the value of allocation which is the least, say θ . Subtract θ from all the donor cells and add θ to all the recipient cells. The basic cell whose allocation has been made zero is called the leaving B.V. If multiple donor cells become zero, then choose any one cell as the leaving B.V and keep other allocations as 0.
7. Return to step 2 and then repeat the process until an optimal solution is found.