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Generally, in transportation problem, we minimize the total transportation/shipping cost.

Assumption

1. We know the shipping/transportation cost from each origin (warehouse) to each destination (marketplace).
2. We know the demand.
3. We know the supply.

Types of transportation problem

1. Balanced

   $\Sigma supply = \Sigma demand$
2. Unbalanced

   $\Sigma supply \neq \Sigma demand$

Methods to find initial/basic feasible solution

1. North-west corner rule
2. Least cost method (greedy technique)
3. Vogel's approximation method

BFS: We need to decide $m + n - 1$ number of variables out of mn where m is the number of rows and n is the number of columns.

North-west corner rule

First check the problem is balanced or not.

Start from the north-west corner cell and

Least cost method

Locate the cell with minimum transportation cost and allocate as must as possible.