

Steps in Assignment Technique

1] **Minimization** ? (eg:Time, Cost, etc)

If Yes → OK

If No → Max Element (-) All elements

2] **Balanced** ? $N(\text{Rows}) = N(\text{Columns})$

If Yes → OK

If No → Insert Dummy Row/Column

3] **Row Minimization** ←→

(All elements - least element) in Row

4] **Column Minimization** ⇕

(All elements - least element) in Column

5] **Optimality Test**

i) Draw **least** horizontal/vertical **lines** covering all zeroes

ii) $N(\text{lines}) = \text{Order of Matrix}$?

If Yes → Solution is Optimum → Step 7

If No → Go to step 6

6] Select **least** uncovered element

i) **Subtract it** from all uncovered elements

ii) **Add it** at intersections of lines

And Repeat step 5

7] **Make assignments** (1 zero each)

If > 1 zero then make arbitrary assignment

8] Prepare **Assignment Schedule** &

calculate minimum cost