

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