17-Sz-Q1 Solution (i) O supply: S

O supply: 50+70+60=180

demand: 75 +65+40 = 180

So this is a balance transportation problem

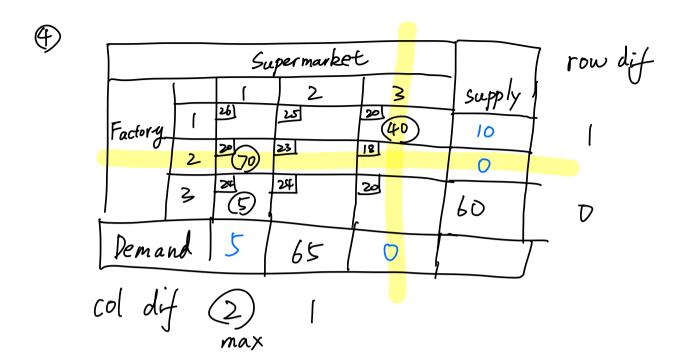
3 Table

3

Row dif

| | | So | permarke | t | | |
|----------|-----------|-----|-----------|--------|--|---------|
| | | ſ | 2 | 3 | supply | |
| Factory | ſ | 26) | <u>15</u> | 40 | 50 | (r) Max |
| | 2 | 20 | 23 | 18 | 70 | 2 |
| | 3 | 24 | 24 | 20 | | |
| <u> </u> | | | - | r | 160 | 4 |
| Dema | Demand 75 | | 65 | 40, | 7 | _ |
| col | dif | 4 | 1 |)_ | | |
| | J | • | l | | | |

Supermarket Row diff supply 3 40 Factory 10 18 23 70 24 20 60 0 Demand 75 65 0 col dif 4 max 1

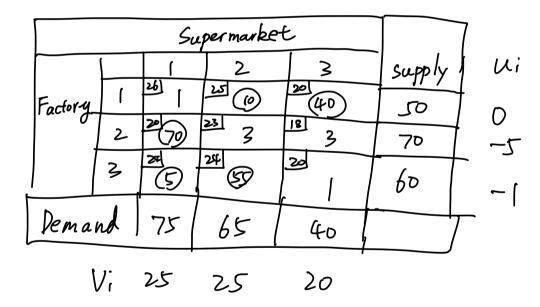


0 Supermarket supply 3 2 15 (O) 26) Factory_ 40 10 20 (70) 23 18 0 24 20 S 55 Demand 65 O

1 So the result is

| | | ſ | 2 | 3 | supply |
|---------|---|---------------|--------|----|--------|
| Factory | ١ | 26] | 15 (e) | 40 | 50 |
| | 2 | 70 | 23 | 18 | 70 |
| | 3 | 24 (5) | 24 55 | 20 | 60 |
| Demand | | 75 | 65 | 40 | |

1) Test the optimum



Since all blocks are nonegative, the result is optimum. (ii) Sensitivity analysis -> not within exam

3) cover all zero use minimue lines, adjust

1 assignment

$$J_1$$
 J_2 J_3 J_4 J_5 min cost
 P_1 8 0* 5 2 M = $15+16+12+12$
 P_2 M M 0* 0 0 = 55
 P_3 0* 0 0 M J
 P_4 0 M 2 4 0*

PS we can have a lot of solution can

Ji Jz Jz Ja Ja Ja

P4 0 * M