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	B1	B2	B3	B4	B5	
A1	3	3	5	3	3	150
A2	7	3	6	1	3	50
A3	2	8	7	2	9	100
A4	1	3	9	6	4	100
	50	150	50	100	50	

1:

$$\sum \sum = 400$$
$$\sum = 400 = \sum \Rightarrow$$

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	B1	B2	B3	B4	B5	
A1	3 50	3 100	5	3	3	150
A2	7	3 50	6	1	3	50
A3	2	8 0	7 50	2 50	9	100
A4	1	3	9	6 50	4 50	100
	50	150	50	100	50	

2:

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$$F = 50 \cdot 3 + 100 \cdot 3 + 50 \cdot 3 + 0 \cdot 8 + 50 \cdot 7 + 50 \cdot 2 + 50 \cdot 6 + 50 \cdot 4 = 1550$$

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$$F = 100 \cdot 3 + 50 \cdot 3 + 50 \cdot 1 + 0 \cdot 8 + 50 \cdot 7 + 50 \cdot 2 + 50 \cdot 1 + 50 \cdot 3 = 1150$$

	B1	B2	B3	B4	B5	
A1	3	3 100	5	3	3 50	150
A2	7	3 0	6	1 50	3	50
A3	2	8	7 50	2 50	9	100
A4	1 50	3 50	9	6	4	100
	50	150	50	100	50	

3:

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	1	3	6	1	3	
0	3	3 100	5 p=-1	3	3 50	150
0	7	3 0	6	1 50	3	50
1	2	8	7 50	2 50	9	100
0	1 50	3 50	9	6	4	100
	50	150	50	100	50	

4:

	1	3	5	0	3	
0	3	3 50	5 50	3	3 50	150
0	7	3 50	6	1	3	50
2	2 p=-1	8	7 0	2 100	9	100
0	1 50	3 50	9	6	4	100
	50	150	50	100	50	

5:

$\Delta_{i,j} = c_{i,j} - u_i - v_j \geq 0 \Rightarrow$  .

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$$X = \begin{pmatrix} 0 & 50 & 50 & 0 & 50 \\ 0 & 50 & 0 & 0 & 0 \\ 0 & 0 & 0 & 100 & 0 \\ 50 & 50 & 0 & 0 & 0 \end{pmatrix}$$

	1	3	5	1	3	
0	3	3 50	5 50	3	3 50	150
0	7	3 50	6	1	3	50
1	2 0	8	7	2 100	9	100
0	1 50	3 50	9	6	4	100
	50	150	50	100	50	

6:

$$F_{\min} = 3 \cdot 50 + 5 \cdot 50 + 3 \cdot 50 + 3 \cdot 50 + 2 \cdot 100 + 1 \cdot 50 + 3 \cdot 50 = 1100$$

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Status: Optimal

Optimal Shipments:

A1 -> B2: 50.0

A1 -> B3: 50.0

A1 -> B5: 50.0

A2 -> B2: 50.0

A3 -> B4: 100.0

A4 -> B1: 50.0

A4 -> B2: 50.0

Total Minimum Cost: 1100.0