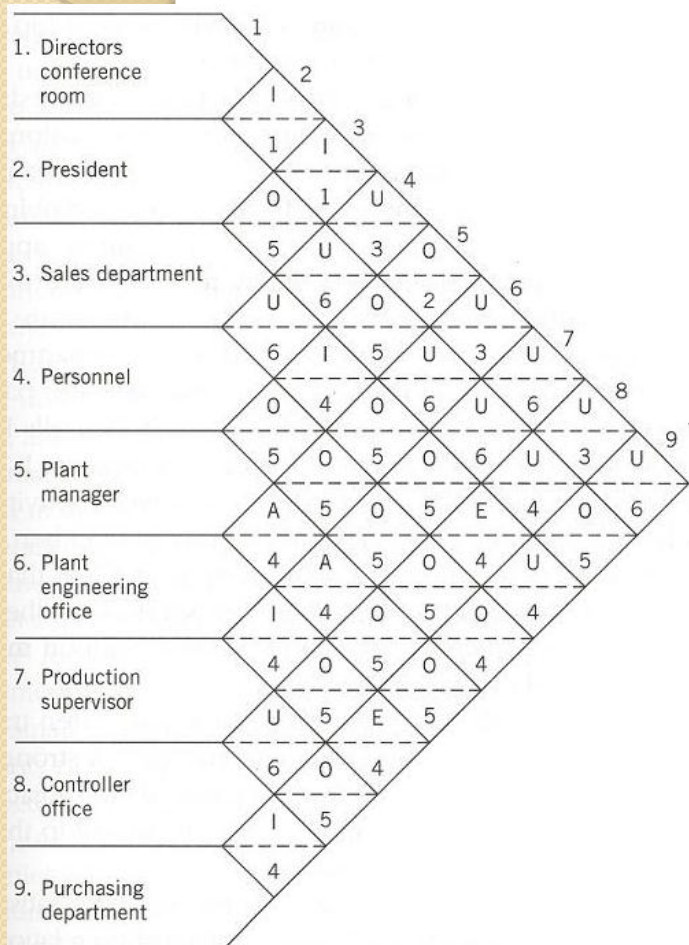


CORELAP – Example 1

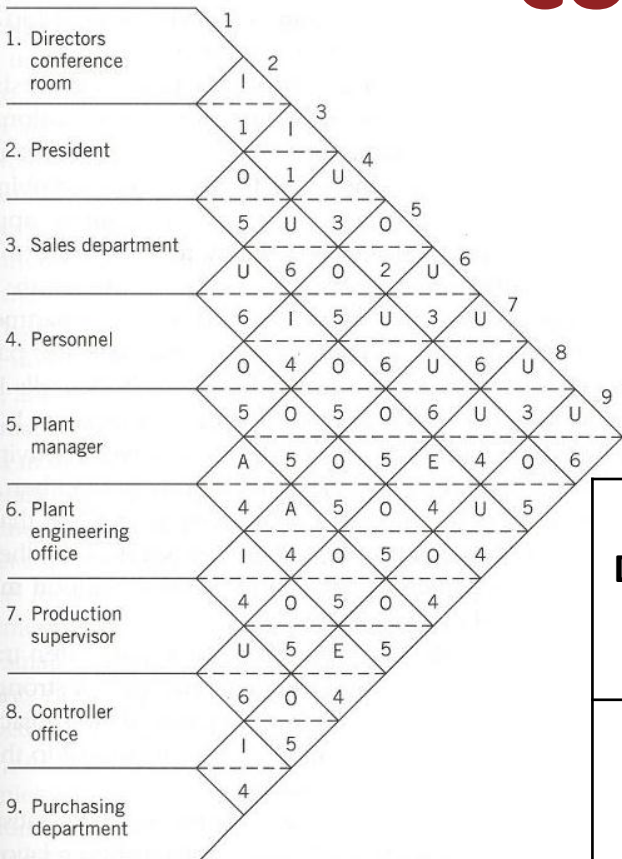
- Given the relationship chart and the departmental dimensions below determine the sequence of the placement of the departments in the layout based on the CORELAP algorithm. Place the departments in the layout while evaluating each placement.



Department Sizes	Sq.ft.	Num of Grids
1. Conf Room	100	2
2. President	200	4
3. Sales	300	6
4. Personnel	500	10
5. Plant Mng.	100	2
6. Plant Eng	500	10
7. P. Supervisor	100	2
8. Controller Office	50	1
9. Purchasing Dept	300	6

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



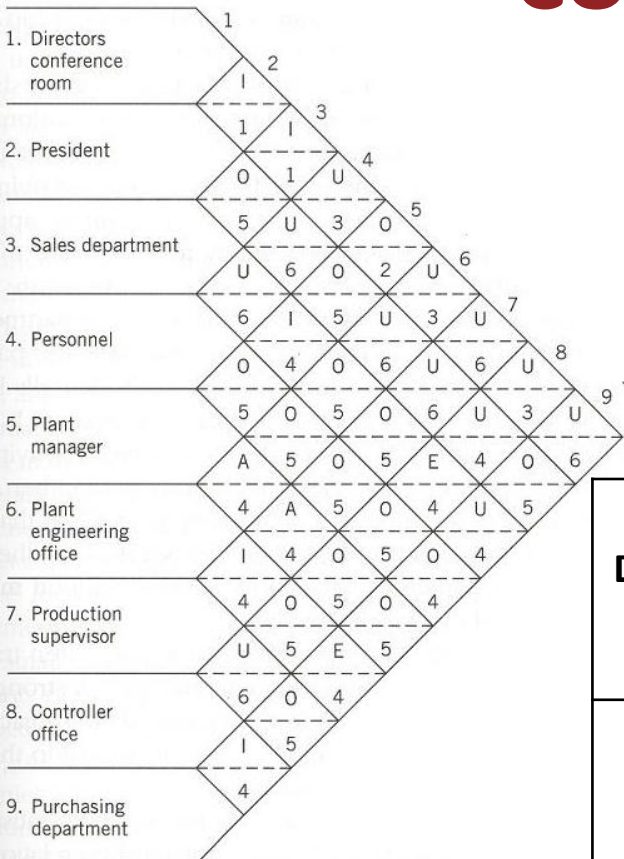
The first department placed in the layout is the one with the greatest TCR value. If there is a tie, then choose the one with more A's (E's, etc.).

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	

The placement sequence: 5

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



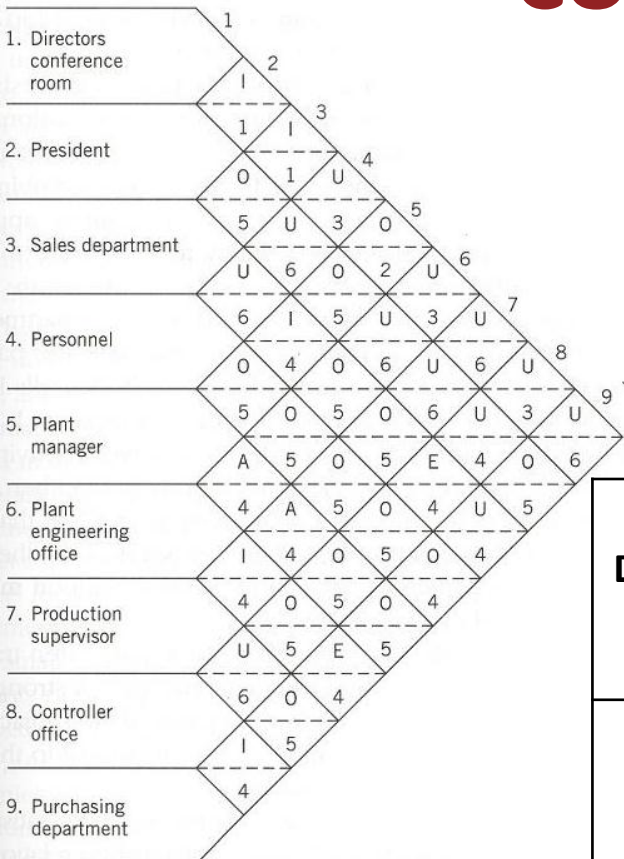
The second department is the one with an A relationship with the first one (or E, I, etc.). If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	

The placement sequence: **5-6**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



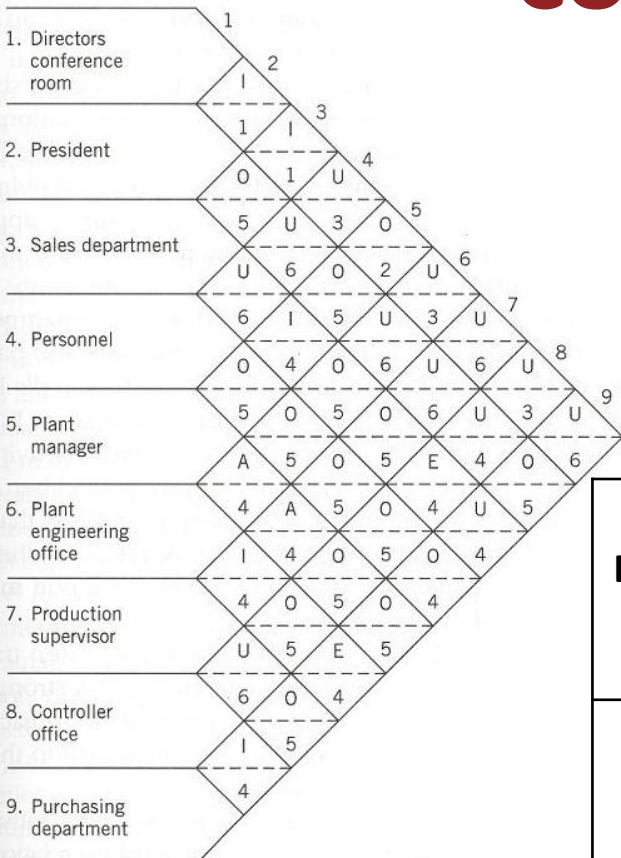
The second department is the one with an A relationship with the first one (or E, I, etc.). If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	

The placement sequence: **5-6-7**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



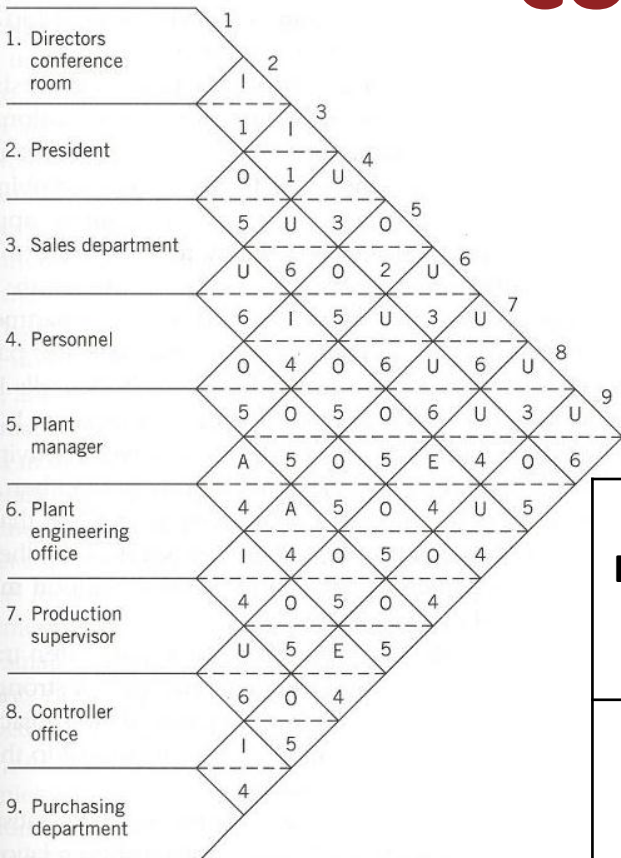
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



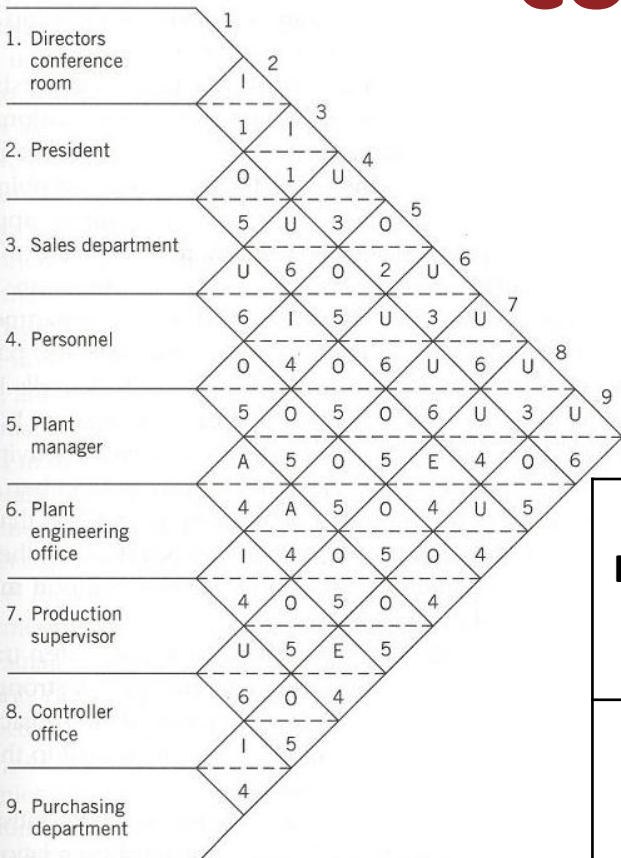
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



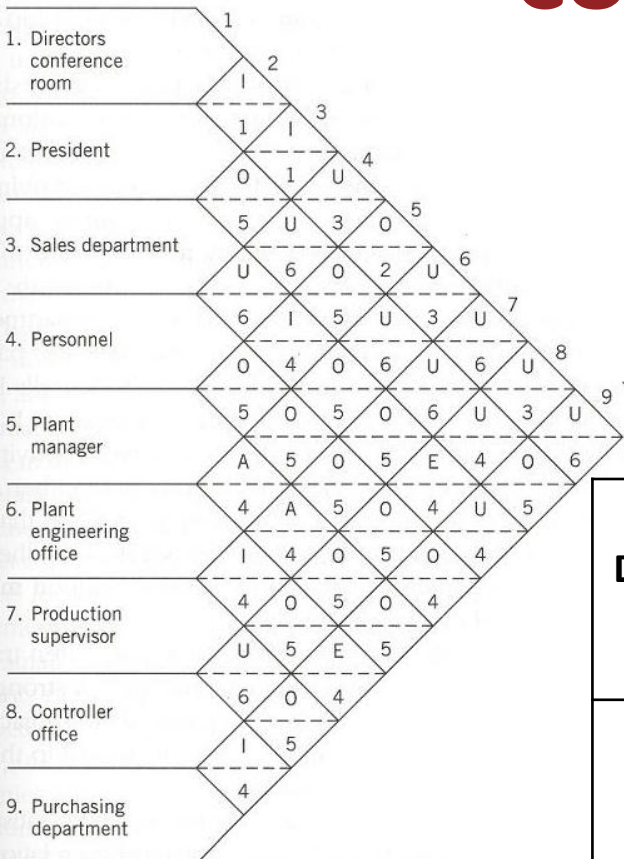
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	6
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3 - 8**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



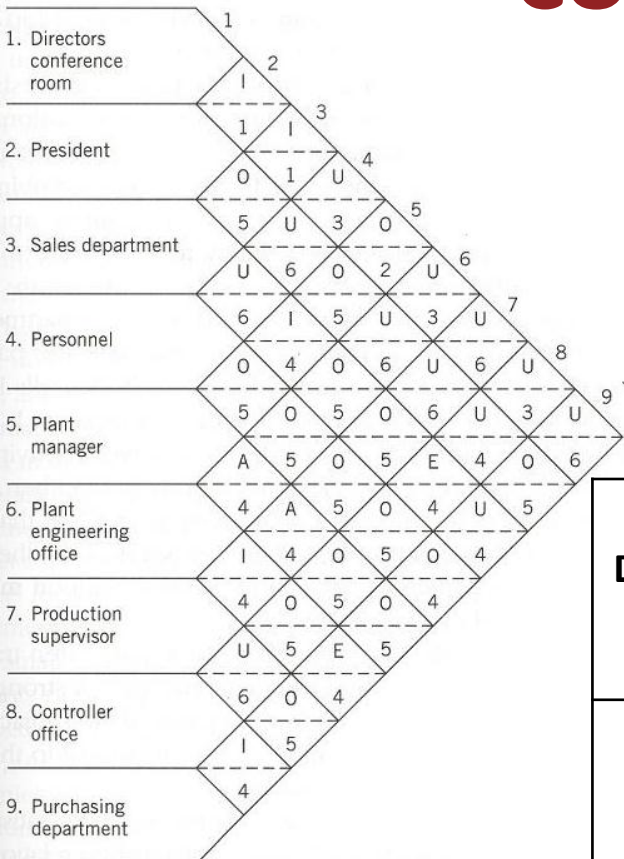
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	7
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	6
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3-8 - 1**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



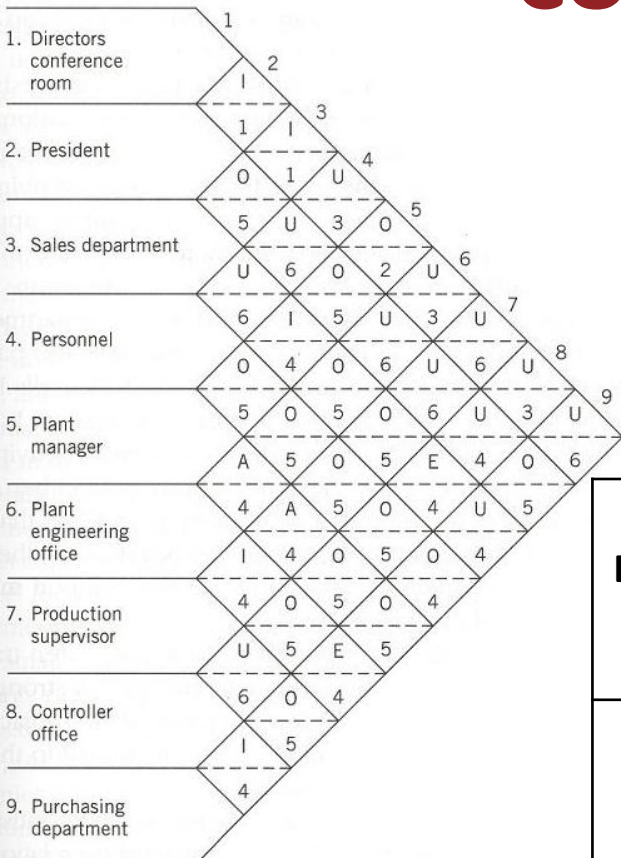
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	7
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	8
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	6
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3-8-1 - 2**

CORELAP – Example 1

$$A=4, E=3, I=2, O=1, U=0, X=-1$$



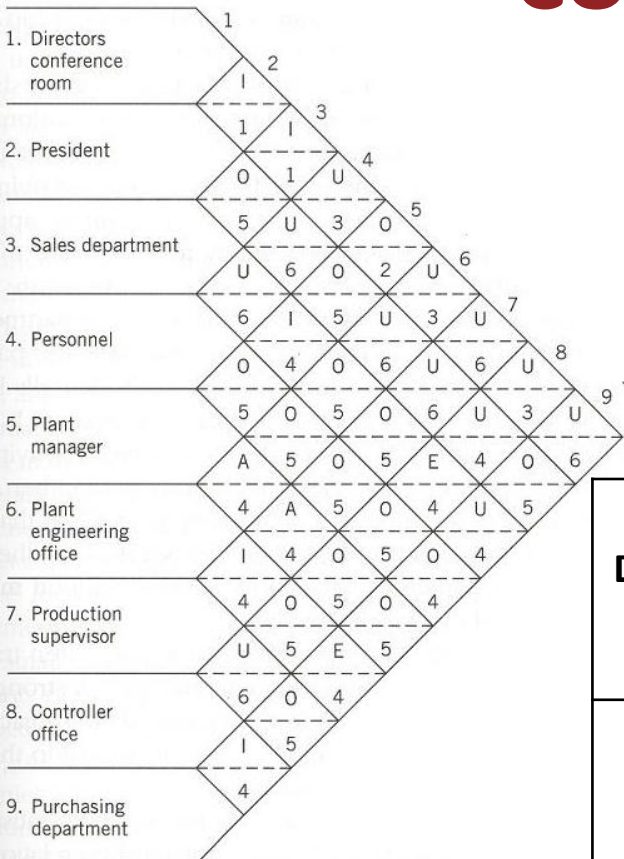
The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	7
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	8
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	9
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	6
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3-8-1-2-4**

CORELAP – Example 1

A=4, E=3, I=2, O=1, U=0, X=-1



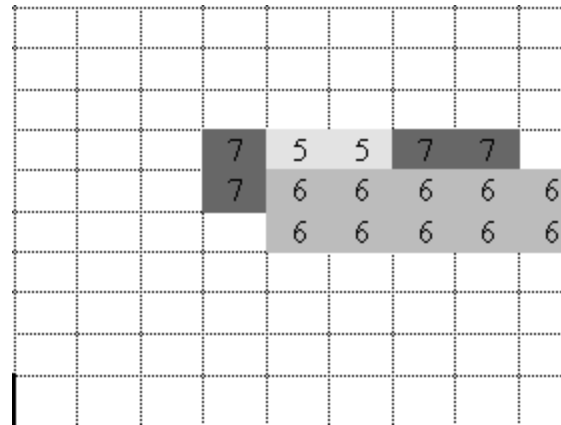
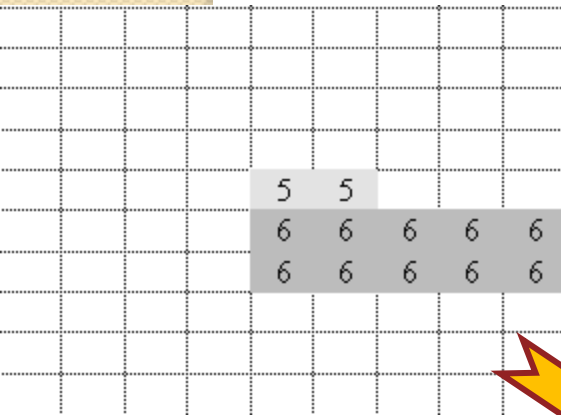
Final table of TCR Values with the placement sequence:

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	I	I	U	O	U	U	U	U	0	0	2	1	5	0	5	7
2	I	-	O	U	O	U	U	U	O	0	0	1	3	4	0	5	8
3	I	O	-	U	I	O	O	E	U	0	1	2	3	2	0	10	5
4	U	U	U	-	O	O	O	O	O	0	0	0	5	3	0	5	9
5	O	O	I	O	-	A	A	O	O	2	0	1	5	0	0	15	1
6	U	U	O	O	A	-	I	O	E	1	1	1	3	2	0	12	2
7	U	U	O	O	A	I	-	U	O	1	0	1	3	3	0	9	3
8	U	U	E	O	O	O	U	-	I	0	1	1	3	3	0	8	6
9	U	O	U	O	O	E	O	I	-	0	1	1	4	2	0	9	4

The placement sequence: **5-6-7-9-3-8-1-2-4**

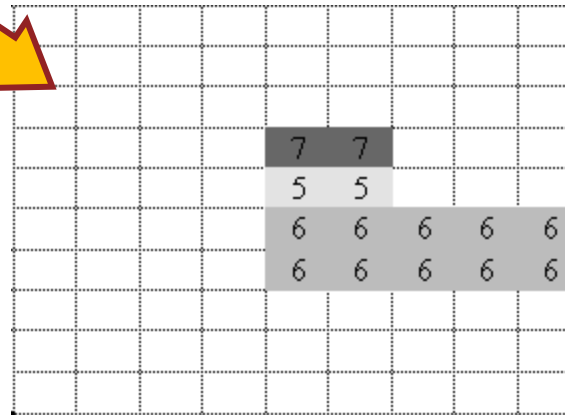
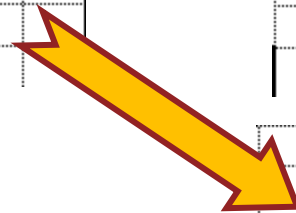
CORELAP – Example 1

A=4, E=3, I=2, O=1, U=0, X=-1



Both options give the same PR Score

$$\begin{aligned} PR &= A_{[5,7]} + I_{[6,7]} \\ &= 4 + 2 = \underline{6} \end{aligned}$$



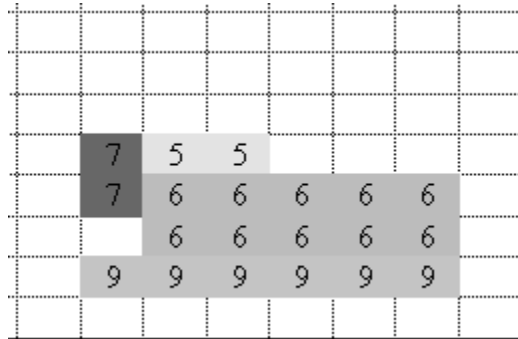
If the location for the department 7 is chosen as shown, the PR would be
 $PR = A_{[5,7]} = \underline{4}$

1. Directors conference room	1									
	I	2								
2. President		1	3							
	0	I	U	4						
3. Sales department		5	U	3	0	5				
		U	6	0	2	U	6			
4. Personnel		6	I	5	U	3	U	7		
		0	4	0	6	U	6	U	8	
5. Plant manager		5	0	5	0	6	U	3	U	9
		A	5	0	5	E	4	0	6	
6. Plant engineering office		4	A	5	0	4	U	5		
		I	4	0	5	0	4			
7. Production supervisor		4	0	5	0	4				
		U	5	E	5					
8. Controller office		6	0	4						
		I	5							
9. Purchasing department		4								

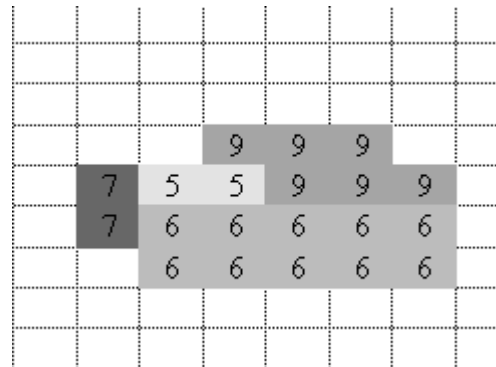
The placement sequence: 5-6-~~7~~-9-3-8-1-2-4

CORELAP – Example 1

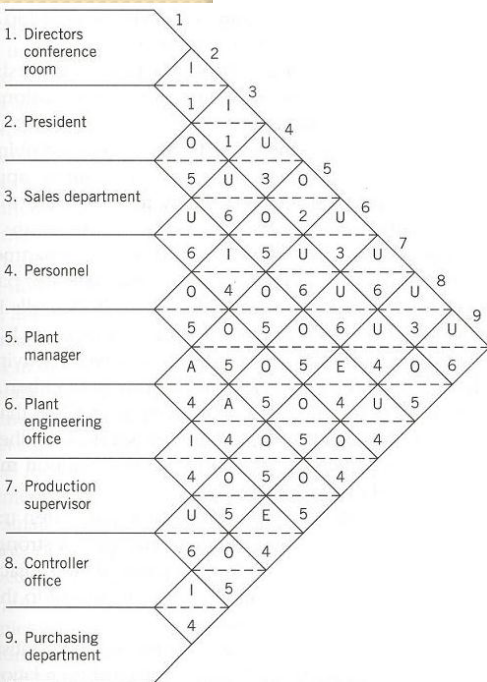
A=4, E=3, I=2, O=1, U=0, X=-1



$$PR = E_{[6,9]} = 3$$



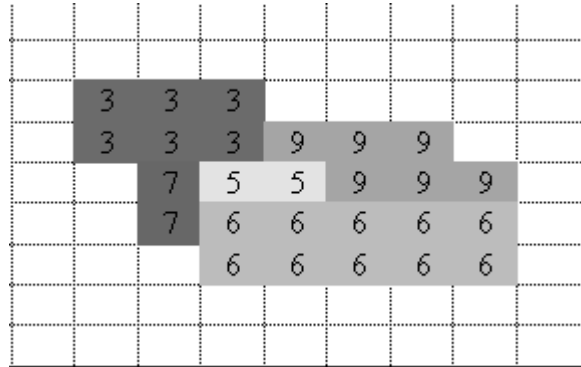
$$PR = E_{[6,9]} + O_{[5,9]} = 3 + 1 = \underline{4}$$



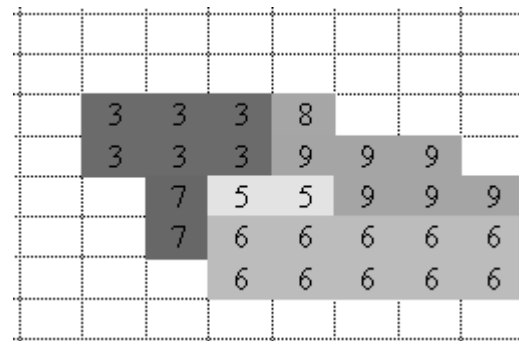
The placement sequence: 5-6-7-9-3-8-1-2-4

CORELAP – Example 1

A=4, E=3, I=2, O=1, U=0, X=-1



$$PR = I_{[3,5]} + O_{[3,7]} + U_{[3,9]} = 2 + 1 + 0 = 3$$



$$PR = + E_{[3,8]} + I_{[8,9]} = 3 + 2 = 5$$

1. Directors conference room	1								
	I	2							
2. President		1	I	3					
	O	1	U		4				
3. Sales department		5	U	3	0	5			
	U	6	0	2	U	6			
4. Personnel		6	I	5	U	3	U	7	
	O	4	0	6	U	6	U	8	
5. Plant manager		5	0	5	0	6	U	3	U
	A	5	0	5	E	4	0	6	
6. Plant engineering office		4	A	5	0	4	U	5	
	I	4	0	5	0	4			
7. Production supervisor		4	0	5	0	4			
	U	5	E	5					
8. Controller office		6	0	4					
	I	5							
9. Purchasing department		4							

The placement sequence: 5-6-7-9-3-8-1-2-4

CORELAP – Example 1

A=4, E=3, I=2, O=1, U=0, X=-1

	3	3	3	8			
	3	3	3	9	9	9	
	1	7	5	5	9	9	9
	1	7	6	6	6	6	6
			6	6	6	6	6

$$PR = I_{[1,3]} + U_{[1,7]} = 2 + 0 = 2$$

1. Directors conference room	1								
	I	2							
		1	I	3					
2. President		0	1	U	4				
		5	U	3	0	5			
3. Sales department		U	6	0	2	U	6		
		6	I	5	U	3	U	7	
4. Personnel		0	4	0	6	U	6	U	8
		5	0	5	0	6	U	3	U
5. Plant manager		A	5	0	5	E	4	0	6
		4	A	5	0	4	U	5	
6. Plant engineering office		I	4	0	5	0	4		
		4	0	5	0	4			
7. Production supervisor		U	5	E	5				
		6	0	4					
8. Controller office		I	5						
		4							
9. Purchasing department									

	2	3	3	3	8		
	2	3	3	3	9	9	9
	2	1	7	5	5	9	9
	2	1	7	6	6	6	6
			6	6	6	6	6

$$TCR = I_{[1,2]} + I_{[2,3]} = 2 + 2 = 4$$

Continue with Department 4.

The placement sequence: 5-6-7-9-3-8-1-2-4

CORELAP – Example 2

➤ Given the relationship chart below, determine the sequence of the placement of the departments and find the best layout with CORELAP algorithm assuming that all the departments have the same size. Use these closeness values: A=125, E=25, I=5, O=1, U=0, X=-125 and consider half weight if the departments are only touching by one point.

1. Receiving									
2. Shipping	A								
3. Raw Materials Storage	E	A							
4. Finished Goods Storage	E	A	U						
5. Manufacturing	E	A	U	O					
6. Work-In-Process Storage	A	O	U	E	A				
7. Assembly	A	A	E	U	A	U			
8. Offices	A	O	A	U	A	U	O		
9. Maintenance	X	O	A	U	A	U	O		

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

Table of TCR values:

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The first department placed in the layout is the one with the greatest TCR value. If there is a tie, then choose the one with more A's (E's, etc.).

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	

The placement sequence: **7**

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

If a department has an X relationship with the first one, it is placed last in the layout. If a tie exists, choose the one with the smallest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	

The placement sequence: 7-

-8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The second department is the one with an A relationship with the first one (or E, I, etc.). If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	

The placement sequence: 7- 5-

- 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 -

- 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	4
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 - 3

- 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	5
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	4
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 - 3 - 1

- 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	5
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	4
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	6
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 - 3 - 1 - 4 - 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

The next department is the one with an A (E, I, etc.) relationship with the already placed departments. If a tie exists, choose the one with the greatest TCR value.

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	5
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	6
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	4
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	6
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	7
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 - 3 - 1 - 4 - 2 - 6 - 8

CORELAP – Example 2

A=125, E=25, I=5, O=1, U=0, X=-125

Final table of TCR values with the placement sequence:

Dept.	Department relationships									Summary						TCR	Placement Sequence
	1	2	3	4	5	6	7	8	9	A	E	I	O	U	X		
1	-	A	A	E	O	U	U	A	O	3	1	-	2	2	-	402	5
2	A	-	E	A	U	O	U	E	U	2	2	-	1	3	-	301	6
3	A	E	-	E	A	U	U	E	A	3	3	-	-	2	-	450	4
4	E	A	E	-	E	O	A	E	U	2	4	-	1	1	-	351	6
5	O	U	A	E	-	A	A	O	A	4	1	-	2	1	-	527	2
6	U	O	U	O	A	-	A	O	O	2	-	-	4	2	-	254	7
7	U	U	U	A	A	A	-	X	A	4	-	-	-	3	1	625	1
8	A	E	E	E	O	O	X	-	X	1	3	-	2	-	2	452	9
9	O	U	A	U	A	O	A	X	-	3	-	-	2	2	1	502	3

The placement sequence: 7- 5 - 9 - 3 - 1 - 4 - 2 - 6 - 8

A=125, E=25, I=5, O=1, U=0, X=-125

CORELAP – Example 2

The placement sequence: 7-5-9-3-1-4-2-6-8

Department 5?

62.5	125	62.5
125	7	125
62.5	125	62.5

7-5...A=125

Department 9?

62.5	187.5	187.5	62.5
125	5	7	125
62.5	187.5	187.5	62.5

7-9...A=125

5-9...A=125

A=125, E=25, I=5, O=1, U=0, X=-125

CORELAP – Example 2

The placement sequence: 7-5-9-3-1-4-2-6-8

Department 3?

62.5	125	62.5	0
187.5	5	7	0
187.5	9	187.5	0
62.5	125	62.5	

3-5...A=125

3-7...U=0

3-9...A=125

Department 1?

62.5	125.5	63.5	0.5	0
125	3	5	7	0
62.5	126.5	9	1.5	0
	0.5	1	0.5	

1-3...A=125

1-7...U=0

1-5...O=1

1-9...O=1

A=125, E=25, I=5, O=1, U=0, X=-125

CORELAP – Example 2

The placement sequence: 7-5-9-3-1-4-2-6-8

Department 4?

12.5	37.5	100	137.5	62.5
37.5	3	5	7	125
37.5	1	9	137.5	62.5
12.5	25	12.5	0	

7-4...A=125

9-4...U=0

3-4...E=25

1-4...E=25

5-4...E=25

Department 2?

12.5	25	12.5	0	0
87.5	3	5	7	62.5
137.5	1	9	4	125
62.5	125	125	125	62.5

2-1...A=125

2-4...A=125

2-3...E=25

2-5...U=0

2-7...U=0

2-9...U=0

A=125, E=25, I=5, O=1, U=0, X=-125

CORELAP – Example 2

The placement sequence: **7-5-9-3-1-4-2-6-8**

Department **6**?

	0	62.5	125	188	62.5
0.5	1	3	5	7	125
1	2	1	9	4	63.5
0.5	1	1	1.5	1.5	0.5

5-6...A=125

7-6...A=125

2-6...O=1

9-6...O=1

4-6...O=1

3-6...U=0

1-6...U=0

Department **8**?

		0.5	1	0.5	
	12.5	25.5	-60.5	6	-61.5
12.5	112.5	3	5	7	-112
25	2	1	9	4	-37.5
12.5	87.5	75	-62.5	-37.5	12.5

9-8...A=125

1-8...A=125

3-8...E=25

2-8...E=25

4-8...E=25

5-8...O=1

6-8...O=1

7-8...X=-125

A=125, E=25, I=5, O=1, U=0, X=-125

CORELAP – Example 2

The placement sequence: **7-5-9-3-1-4-2-6-8**

			6
8	3	5	7
2	1	9	4

The final layout