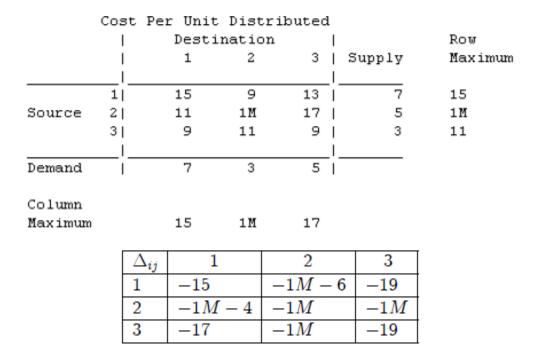
Tutorial 7

Problem 1

(a) Vogel's approximation method would choose x_{21} as the first basic variable.

	Cost	Per	Unit	Dist	ributed				
	- 1	Destination			- 1	1			
	- 1	1		2	3	Supply	D:	iffer	cence
	!				I				
	1	15		9	13	7	4		
Source	2	11		1 M	17	5	6	<	${\tt Maximum}$
	3	9	1	11	9	3	0		
	I				I				
Demand	I	7	,	3	5				
Column									
Difference		2		2	4				

(b) Russell's approximation method would choose x_{12} as the first basic variable.



(c) Initial BF solution using northwest corner rule:

		D			
		1	Supply		
	1	7	-	-	7
Source	2	-	3	2	5
	3	-	-	3	3
Demand		7	3	5	

Problem 2

(a)

Unit Shipping Cost

		one suppling cost						
			Retail	Outlet				
		1	2	3	4	Supply		
	1	700	800	500	200	10		
	2	200	900	100	400	20		
Plant	3	400	500	300	100	20		
	4	200	100	400	300	10		
Demand		20	10	10	20			

	I	Destir				
	1	2	3	4	Supply	u[i]
	١١			lI		
	700	8001	500	200		
1	B					
	10	01	0	0	10	0
	<u> </u>	!		<u> </u>		
_		900	100	400		
2	B	B				_
	10	10	0	0	20	0
	!!	!		!	!	
	400	500		100		
3		B	B		201	
	0	0	10	10	20	0
	'' 200	100	400	 300		
4	2001 			300 B		
-		01	0	10	10	0
		٠ ا	-	1 10	101	Ŭ
Demand	' 20	10	10	20		
[j]		0	0	 oi		
•	I			i	Z = 250	000

	Destination							
	1	2	3	4	Supply	u[i]		
	اا							
	700	8001	500	200				
1	L			E				
	10	-600	-700	-800	10	700		
	!!	!	1001	4001				
2	200 P	900	1001	400				
2		- '	-600	 -100	201	200		
	10	101	-800	-100	20	200		
	' <u></u> ' 400	500	300	100				
3	100 	PI	B					
_	600	- 1	_		20	-200		
	I I	i		i i	i			
	2001	100	400	300	İ			
4		I		B				
	200	-600	-100	10	10	0		
	١١	I		ll	lI			
Demand	20	10	10	20				
	<u> </u>							
v[j]	. 0	700	500	300				
					Z = 25	000		