

# FIT3158 Note - W6 Vogel's method

type	Post
Created date	@September 22, 2022 11:12 PM
category	Business
tags	Decision Making
status	Published
Language	English
From	School
summary	
slug	
password	
Author	
Priority	
Cover	
Featured	<input type="checkbox"/>
Origin	
Type	
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Youtube	<input type="checkbox"/>
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This method is based on north-west method where it additionally takes consideration of the cost.

Smallest 减 Second smallest						
Source	Destination					Capacity
	D1	D2	D3	D4		
S1	19	7	3	21		7-3=4
S2	15	21	18	6		15-6=9
S3	11	14	15	22		14-11=3
Demand	150	100	200	150	600	
	15-11=4	14-7=7	15-3=12	21-6=15		

Source	Particularly col4 入面, 6 係最細, 所以拿 S2-D4				Capacity
	D1	D2	D3	D4	
S1	19	7	3	21	100
S2	15	21	18	6	150
S3	11	14	15	22	200
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	

15 最大, 所以 grab col 4

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	150	100	200	21	7-3=4
S2	11	21	18	6	15-6=9 18-15=3
S3	14	14	15	22	14-11=3
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

Since we 搞店 D4, The next step is to find the biggest number in demand, which is D3 (12)

搞店 Col 4 (D4), where demand 150 meets supply 150

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	18	3	100	100	7-3=4 0
S2	300	150	150	150	15-6=9 18-15=3
S3	200	15	100	100	14-11=3
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

最小 D3S1 (3), 所以 demand 100 meets supply 200

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	19	7	3	21	7-3=4 0
S2	15	21	18	6	15-6=9 18-15=3
S3	11	14	15	22	14-11=3
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

搞掂 row1后, smallest - 2nd smallest

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	100	19	7	3	7-3=4 0
S2	150	300	150	150	15-6=9 18-15=3
S3	100	100	100	100	14-11=3 15-11=4
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

When demand of D2 (100) meets supply (200)

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	19	7	3	21	7-3=4 0
S2	15	21	18	6	15-6=9 18-15=3
S3	11	14	15	22	14-11=3
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

Now only has D1 to be done.....

Source	Destination				Capacity
	D1	D2	D3	D4	
S1	100	19	7	3	7-3=4 0
S2	150	300	150	150	15-6=9 18-15=3
S3	100	100	100	100	14-11=3 15-11=4
Demand	150	100	200	150	600
	15-11=4	14-7=7	15-3=12	21-6=15	0

## Vogel's Approximation Method – Solution

To supply:	Quantity:	Unit Cost:	Total Cost:
S1 → D3	100	3	300
S2 → D1	50	15	750
S2 → D3	100	18	1800
S2 → D4	150	6	900
S3 → D1	100	11	1100
S3 → D2	100	14	1400
			\$6,250

▼ More exercise

[Transportation Problem | Set 4 \(Vogel's Approximation Method\) - GeeksforGeeks](#)