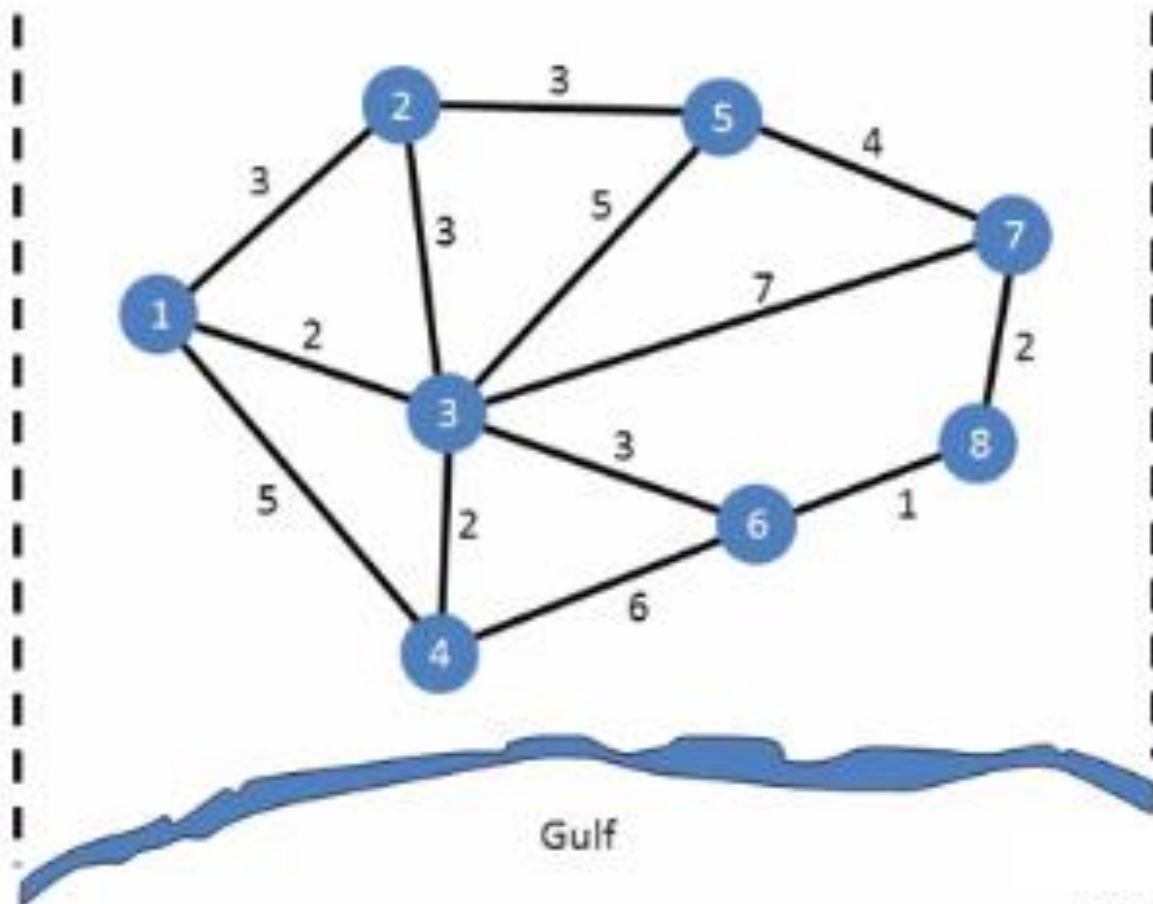


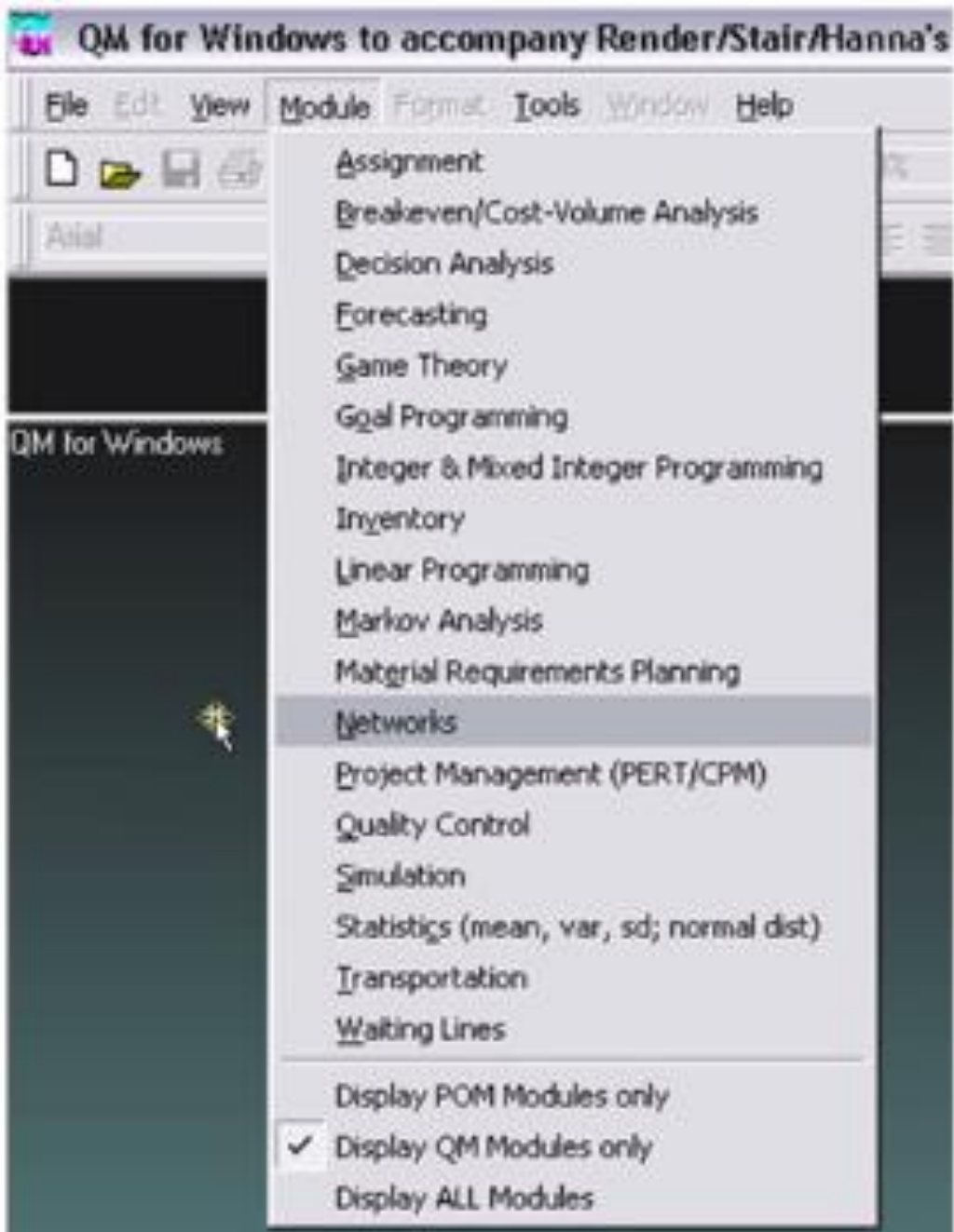
RISET OPERASIONAL

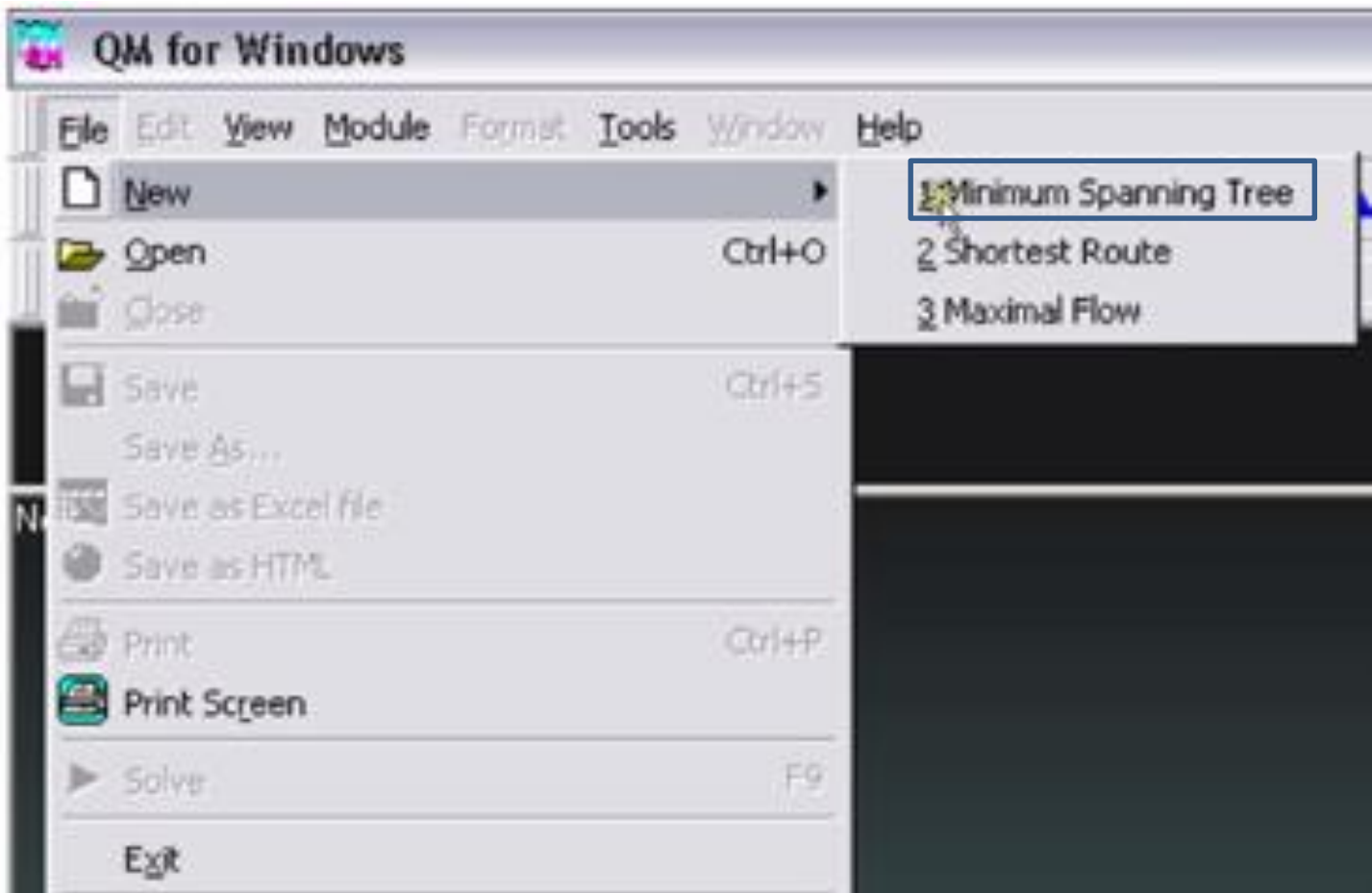
-Network-

Minimal-Spanning Tree Technique

- Network for Lauderdale Construction







Create data set for Networks/Minimum Spanning Tree

Title: (untitled)

Modify default title

Number of Branches

13

Row names

Column names

Overview

- Branch 1, Branch 2, Branch 3, ...
- a, b, c, d, e, ...
- A, B, C, D, E, ...
- 1, 2, 3, 4, 5, ...
- January, February, March, April, ...

Click here to set start month

Other

Cancel

Help

OK

QM for Windows - [Data Table]

File Edit View Module Format Tools Window Help

100% Solve

Arial 8.25 B I U .00 Fix Dec 0.0

Starting node for iterations: Instruction: Enter the cost for this branch. Any non-negative value is per

(until)

Branch name	Start node	End node	Cost
Branch 1	1	2	3
Branch 2	1	3	2
Branch 3	1	4	5
Branch 4	2	3	3
Branch 5	3	4	2
Branch 6	2	5	3
Branch 7	3	5	5
Branch 8	3	6	3
Branch 9	4	6	6
Branch 10	3	7	7
Branch 11	5	7	4
Branch 12	6	8	1
Branch 13	7	8	2

Result (Solve)

QM for Windows

File Edit View Module Format Tools Window Help

100%

Arial 8.25 B I U .00

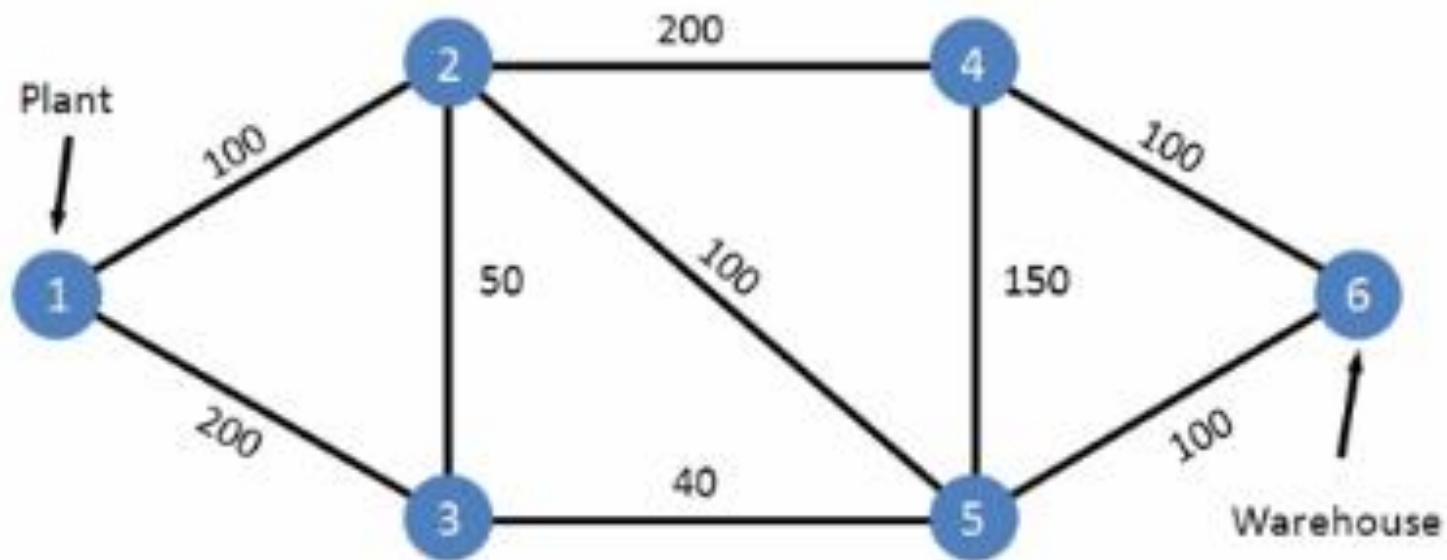
Starting node for iterations: **Note**
Multiple optimal solutions exist

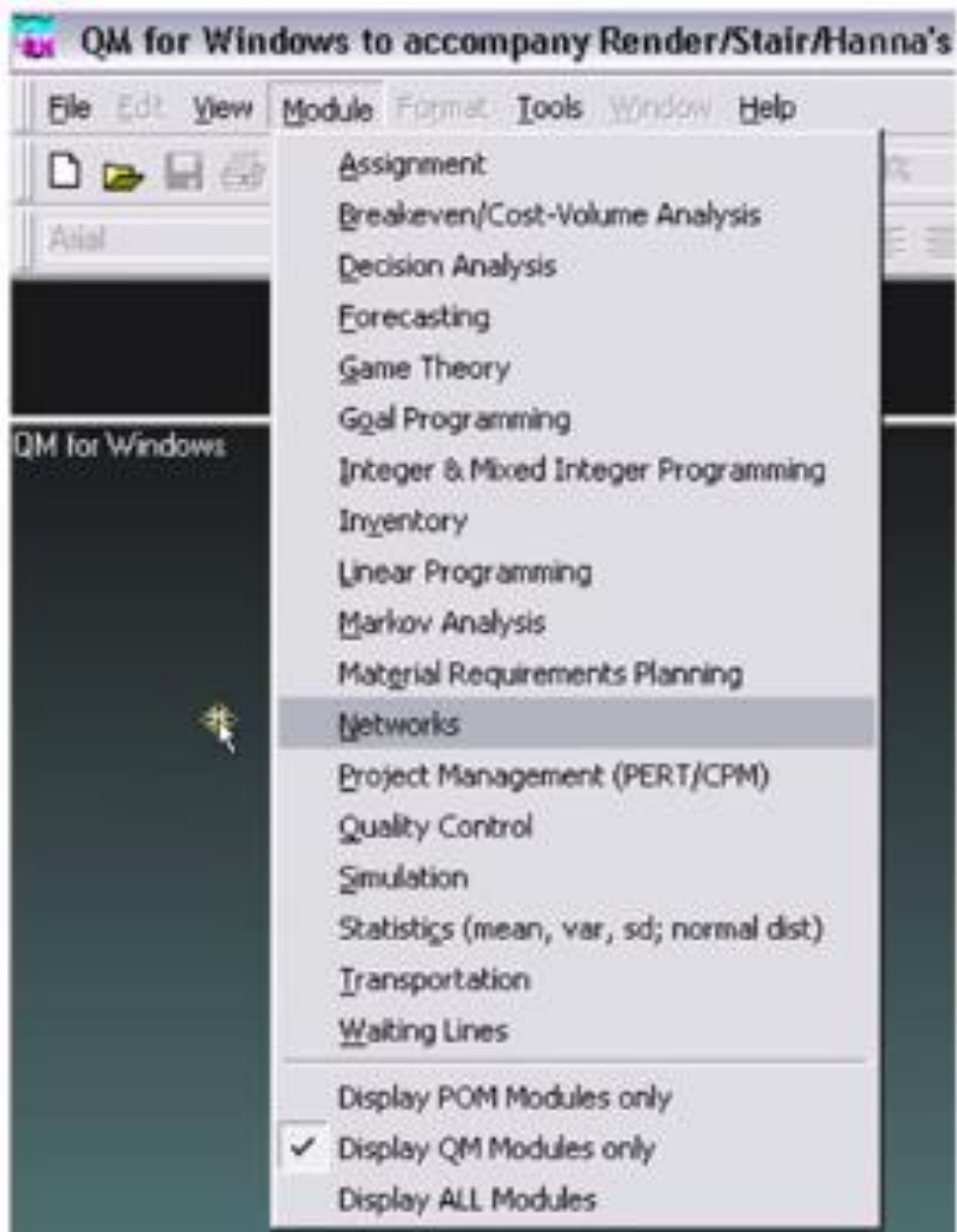
Networks Results (untitled) Sol

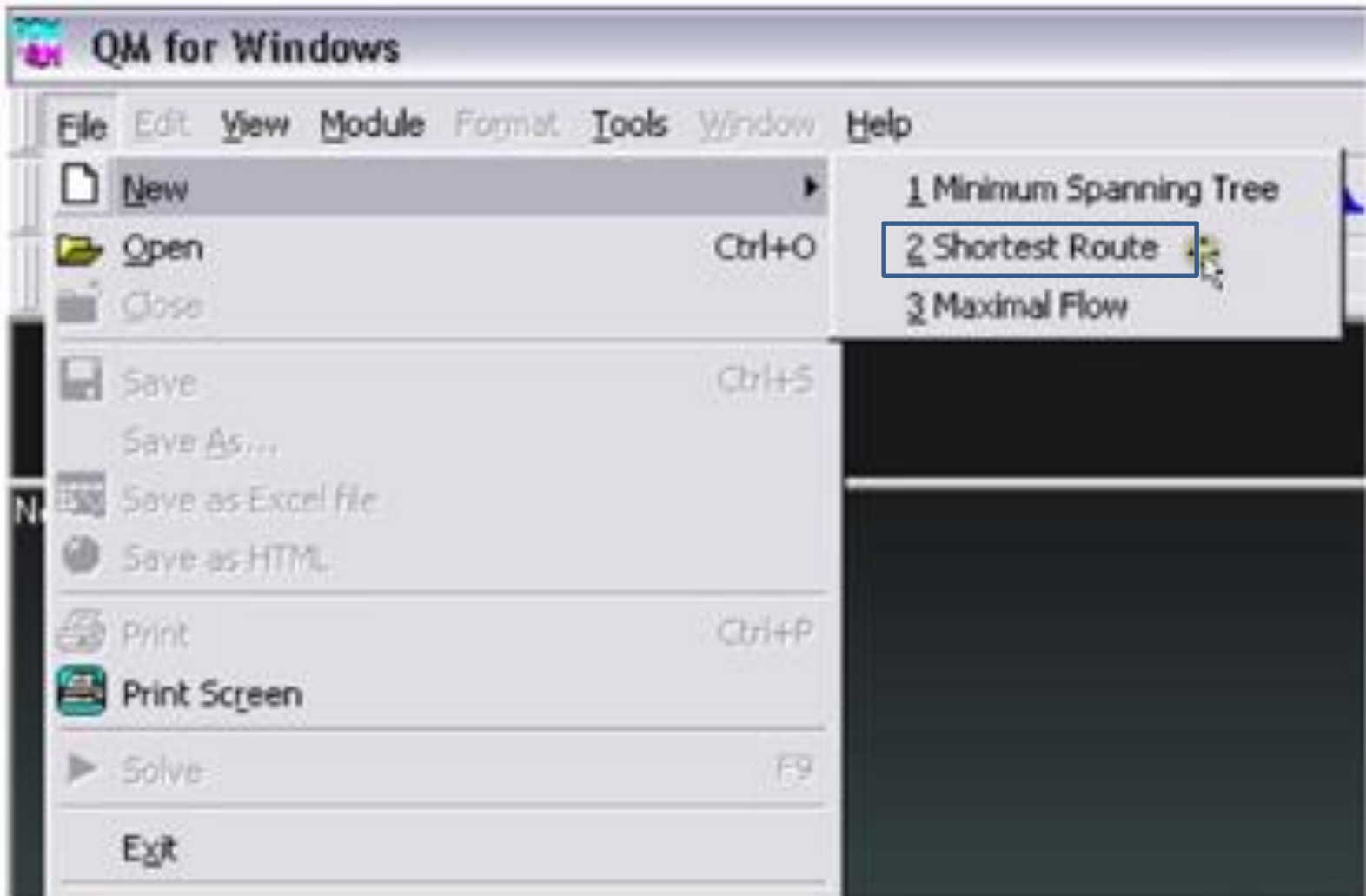
Branch name	Start node	End node	Cost	Include	Cost
Branch 1	1	2	3	Y	3
Branch 2	1	3	2	Y	2
Branch 3	1	4	5		
Branch 4	2	3	3		
Branch 5	3	4	2	Y	2
Branch 6	2	5	3	Y	3
Branch 7	3	5	5		
Branch 8	3	6	3	Y	3
Branch 9	4	6	6		
Branch 10	3	7	7		
Branch 11	5	7	4		
Branch 12	6	8	1	Y	1
Branch 13	7	8	2	Y	2
Total					16

Shortest-Route Technique

- Roads from Ray's plant to warehouse







Create data set for Networks/Shortest Route

Title: [untitled]

Modify default title

Number of Branches

Network type

- Undirected
- Directed

Row names

Column names

Overview

- Branch 1, Branch 2, Branch 3, ...
- a, b, c, d, e, ...
- A, B, C, D, E, ...
- 1, 2, 3, 4, 5, ...
- January, February, March, April, ...

Click here to set start month

- Other

Cancel

Help

OK

QM for Windows - [Data Table]

File Edit View Module Format Tools Window Help

100% Solve

Arial 8.25 B I U 00 0.0

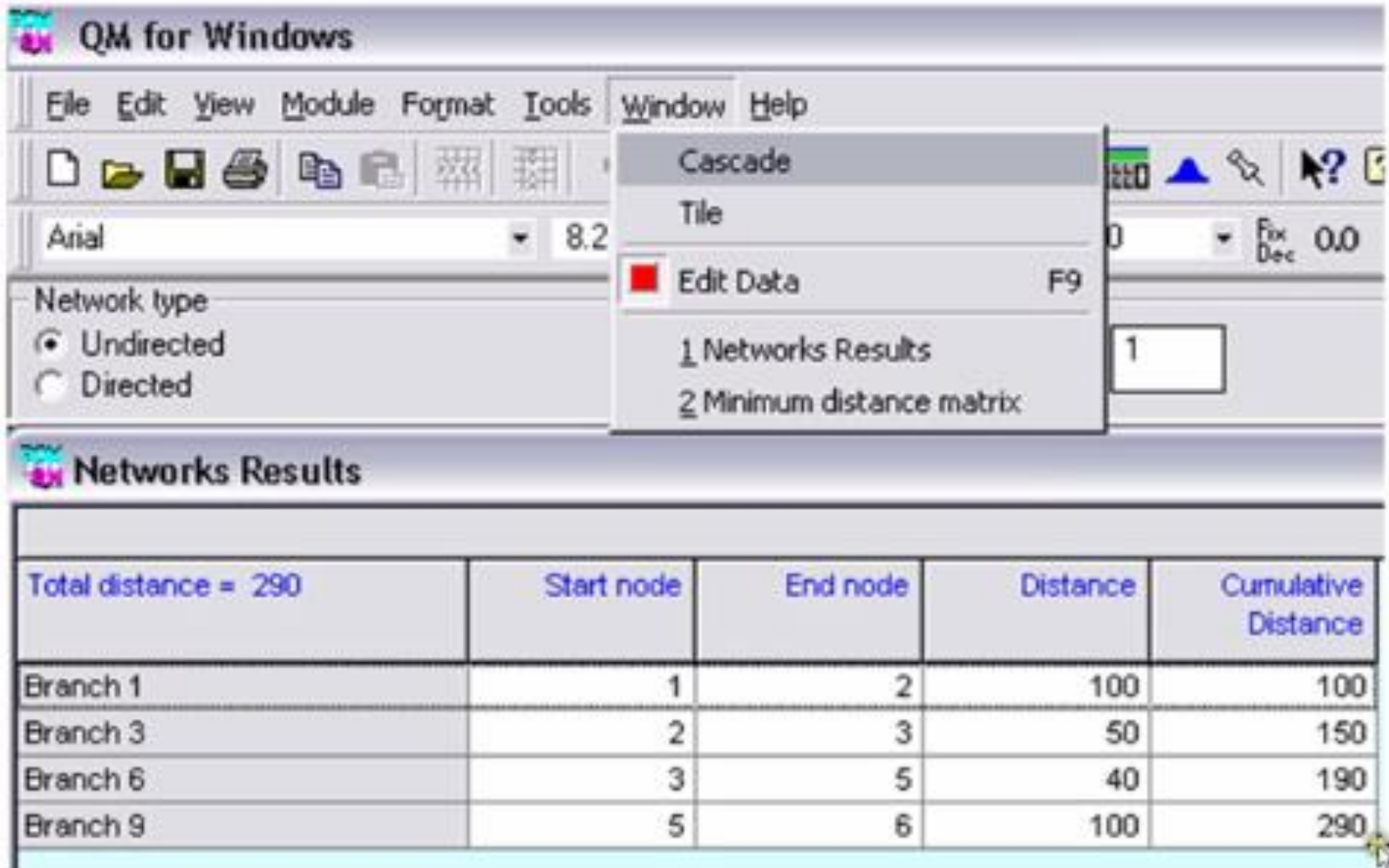
Network type
 Undirected
 Directed

Origin

(untitled)

	Start node	End node	Distance
Branch 1	1	2	100
Branch 2	1	3	200
Branch 3	2	3	50
Branch 4	2	4	200
Branch 5	2	5	100
Branch 6	3	5	40
Branch 7	4	5	150
Branch 8	4	6	100
Branch 9	5	6	100

Result (Solve)



QM for Windows

File Edit View Module Format Tools Window Help

Cascade
Tile
Edit Data F9
1 Networks Results
2 Minimum distance matrix

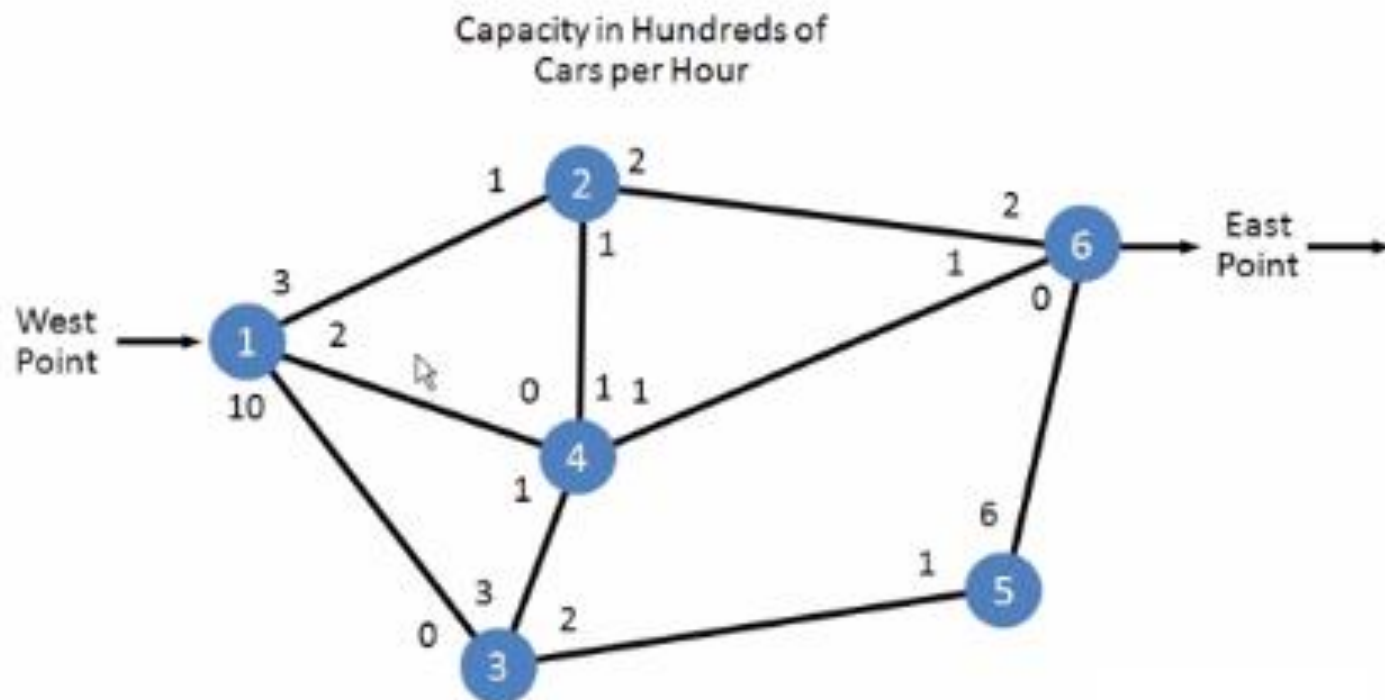
Network type
 Undirected
 Directed

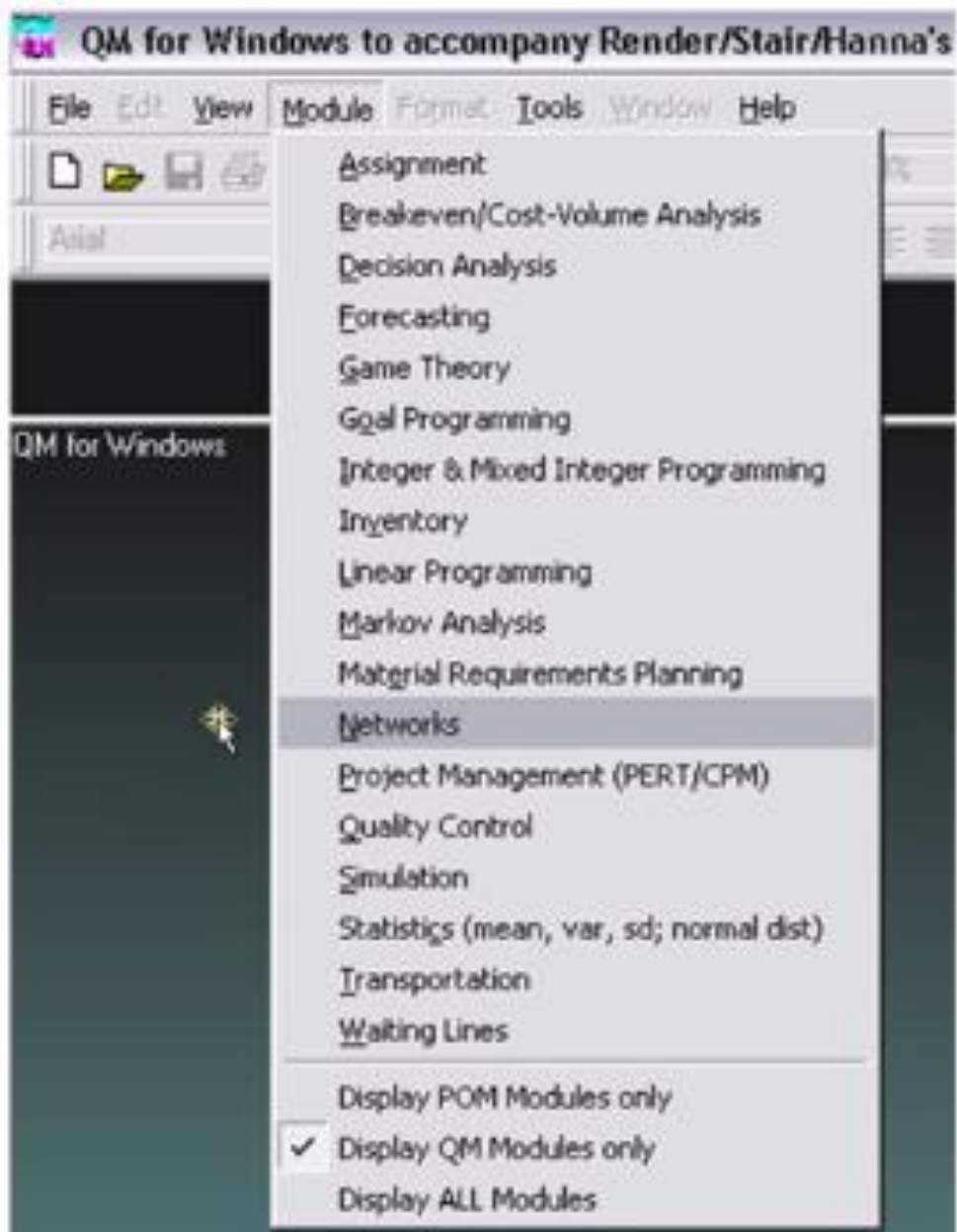
Networks Results

Total distance = 290	Start node	End node	Distance	Cumulative Distance
Branch 1	1	2	100	100
Branch 3	2	3	50	150
Branch 6	3	5	40	190
Branch 9	5	6	100	290

Maximal-Flow Technique

- Road network for Waukesha





QM for Windows

File Edit View Module Format Tools Window Help

- New
- Open Ctrl+O
- Close
- Save Ctrl+S
- Save As...
- Save as Excel file
- Save as HTML
- Print Ctrl+P
- Print Screen
- Solve F9
- Exit

- 1 Minimum Spanning Tree
- 2 Shortest Route
- 3 Maximal Flow

Create data set for Networks/Maximal Flow

Title: [untitled]

Modify default title

Number of Branches



Row names

Column names

Overview

- Branch 1, Branch 2, Branch 3, ...
- a, b, c, d, e, ...
- A, B, C, D, E, ...
- 1, 2, 3, 4, 5, ...
- January, February, March, April, ...

Other

Cancel

Help

OK

QM for Windows - [Data Table]

File Edit View Module Format Tools Window Help

100%

Arial 8.25 **B** *I* U .00 Fix Dec 0.00

Source: Sink:

Branch name	Start node	End node	Capacity	Reverse capacity
Branch 1	1	2	300	100
Branch 2	1	4	200	0
Branch 3	1	3	1000	0
Branch 4	2	4	100	100
Branch 5	3	4	300	100
Branch 6	2	6	200	200
Branch 7	4	6	100	100
Branch 8	3	5	200	100
Branch 9	5	6	600	0

Result (Solve)

QM for Windows

File Edit View Module Format Tools Window Help

100% Edit Data

Source: 1 Sink: 6

Networks Results

(untitled) Solution

Branch name	Start node	End node	Capacity	Reverse capacity	Flow
Maximal Network Flow	500				
Branch 1	1	2	300	100	300
Branch 2	1	4	200	0	0
Branch 3	1	3	1000	0	200
Branch 4	2	4	100	100	100
Branch 5	3	4	300	100	0
Branch 6	2	6	200	200	200
Branch 7	4	6	100	100	100
Branch 8	3	5	200	100	200
Branch 9	5	6	600	0	200

Iterations

Result (Solve)

QM for Windows

File Edit View Module Format Tools Window Help

100% Edit Data

Source: 1 Sink: 6

Instruction: There are m Menu.

Networks Results

(untitled) Solution

Branch name	Start node	End node	Capacity	Reverse capacity	Flow
Maximal Network Flow	500				
Branch 1					
Branch 2					
Branch 3					
Branch 4					
Branch 5					
Branch 6					
Branch 7					
Branch 8					
Branch 9					

Iterations

(untitled) Solution

Iteration	Path	Flow	Cumulative Flow
1	1-> 2-> 6	200	200
2	1-> 3-> 5-> 6	200	400
3	1-> 2-> 4-> 6	100	500

Thank You

See you later

