



مسألة: تريد المؤسسة (س) تعيين أربعة عمال لإدارة أربعة آلات

الجدول التالي يوضح تكلفة تعيين كل عامل على كل آلة:

المطلوب: إيجاد أفضل طريقة للتخصيص؟

الآلات العمال	01	02	03	04
01	4	5	2	9
02	3	5	7	9
03	9	8	5	6
04	5			



0:37 / 4:50



TechSmith

The KMPlayer

TORA

UltraISO

WinQSB

Acceptance Sampling Analysis

Aggregate Planning

Decision Analysis

Dynamic Programming

Facility Location and Layout

Forecasting and Linear Regression

Goal Programming

Inventory Theory and System

Job Scheduling

Linear and Integer Programming

MarKov Process

Networks Planning

Network Modeling

Nonlinear Programming

PERT\_CPM

Quadratic Programming

Quality Control Chart

Queuing Analysis

Queuing System Simulation 1:37 / 4:50

MAISON XP

Documents

Images

Musique

Jeux

Ordinateur

Panneau de configuration

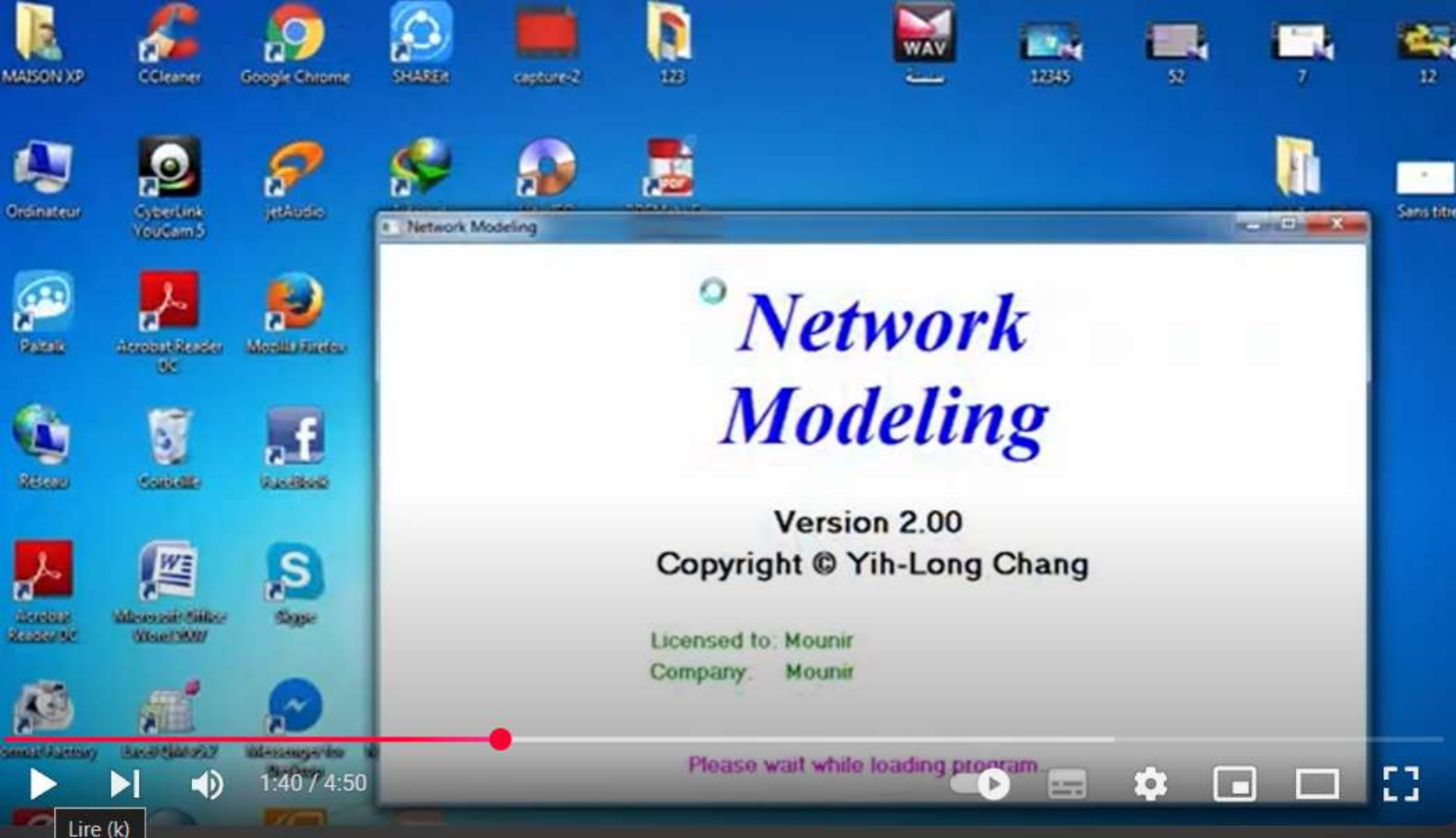
Périphériques et imprimantes

Programmes par défaut

Aide et support

construction...





# Network Modeling

Version 2.00  
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Company: Mounir

Please wait while loading program...

1:40 / 4:50

Lire (k)

## NET Problem Specification

## Problem Type

- Network Flow
- Transportation Problem
- Assignment Problem
- Shortest Path Problem
- Maximal Flow Problem
- Minimal Spanning Tree
- Traveling Salesman Problem

## Objective Criterion

- Minimization
- Maximization

## Data Entry Format

- Spreadsheet Matrix Form
- Graphic Model Form
- Symmetric Arc Coefficients  
*(i.e., both ways same cost)*

Problem Title

Number of Objects

Number of Assignments

OK

Cancel

Help



1:45 / 4:50



## NET Problem Specification

## Problem Type

- Network Flow  
 Transportation Problem  
 Assignment Problem  
 Shortest Path Problem  
 Maximal Flow Problem  
 Minimal Spanning Tree  
 Traveling Salesman Problem

## Objective Criterion

- Minimization  
 Maximization

## Data Entry Format

- Spreadsheet Matrix Form  
 Graphic Model Form  
 Symmetric Arc Coefficients  
*(i.e., both ways same cost)*

Problem Title

aa2g

Number of Objects

4

Number of Assignments

4

OK

Cancel

Help

الألات \ العمال	01	02	03	04
01	4	5	2	9
02	3	5	7	9
03	9	8	5	6
04	5	10	2	2



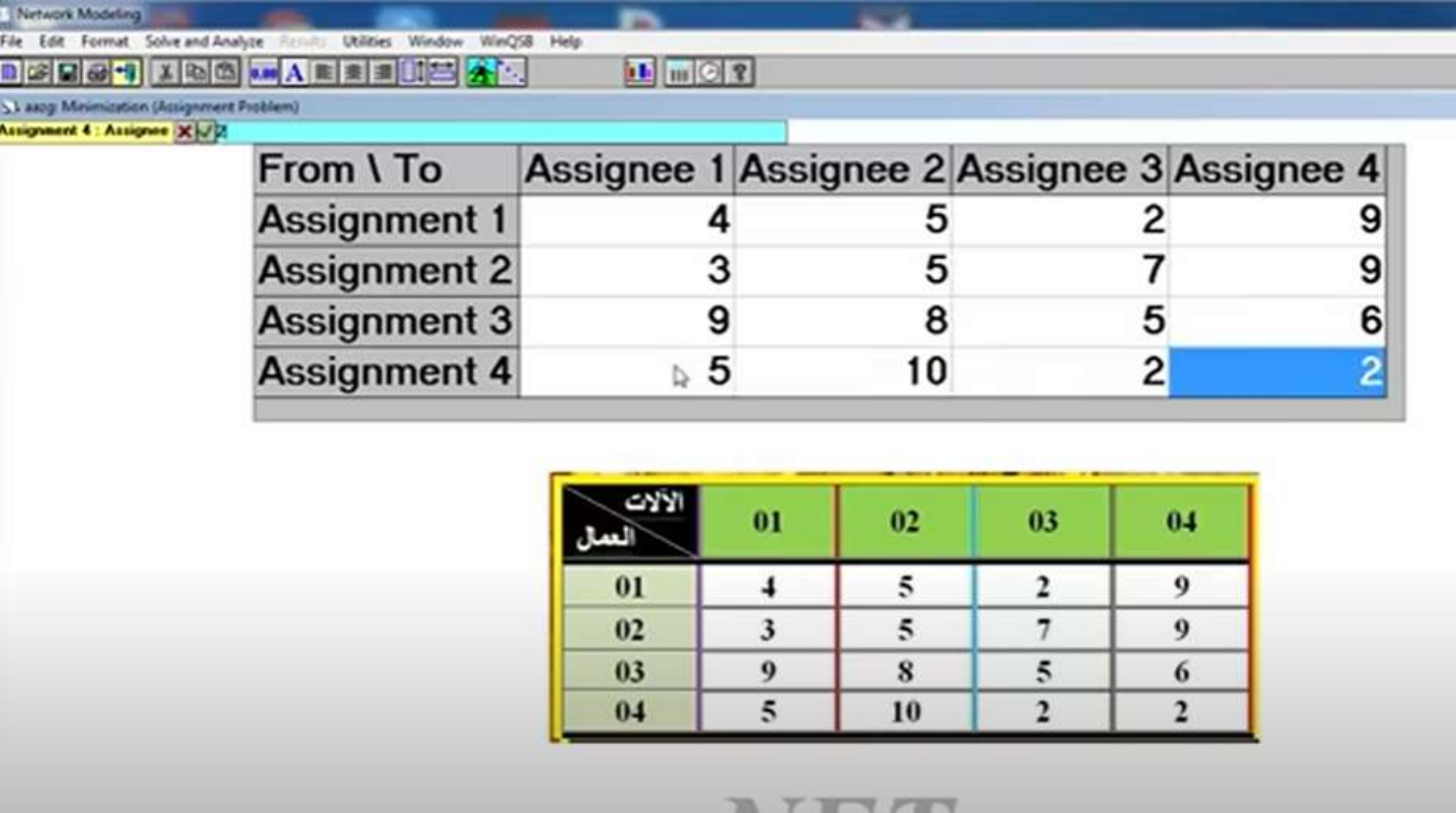


\ \ aazq Minimization (Assignment Problem)

Assignment 1 : Assignee 1

From \ To	Assignee 1	Assignee 2	Assignee 3	Assignee 4
Assignment 1				
Assignment 2				
Assignment 3				
Assignment 4				

العمل \ الآلات	01	02	03	04
01	4	5	2	9
02	3	5	7	9
03	9	8	5	6
04	5	10	2	2





- Solve the Problem
- Solve and Display Steps - Network
- Solve and Display Steps - Tableau
- Select Initial Solution Method**
- Perform What If Analysis
- Perform Parametric Analysis

aazg: Minimizatio

Assignment 4 : Assig

o	Assignee 1	Assignee 2	Ass
Assignment 1	4	5	
Assignment 2	3	5	
Assignment 3	9	8	
Assignment 4	5	10	



Network Modeling

File Edit Format **Solve and Analyze** Results Utilities Window WinQSB Help

Solve the Problem  
Solve and Display Steps - Network  
**Solve and Display Steps - Tableau**  
Select Initial Solution Method  
Perform What If Analysis  
Perform Parametric Analysis

Assignment 4 : Assi

o	Assignee 1	Assignee 2	Ass
Assignment 1	4	5	
Assignment 2	3	5	
Assignment 3	9	8	
Assignment 4	5	10	



## Hungarian Method for aazg - Iteration 1

From \ To	Assignee 1	Assignee 2	Assignee 3	Assignee 4
Assignment	2	1	0	7
Assignment	0	0	4	6
Assignment	4	1	0	1
Assignment	3	6	0	0



aazg: Minimization (

Assignment 4: Assigna

Hungarian Method for aazg - Iteration 1

From \ To	Assignee 1	Assignee 2	Assignee 3	Assignee 4
Assignment	2	1	0	7
Assignment	0	0	4	6
Assignment	4	1	0	1
Assignment	3	6	0	0



aazg: Minimization (Assignment Problem)

:signm

Hungarian Method for aazg - Iteration 2 (Final)

From \ To	Assignee 1	Assignee 2	Assignee 3	Assignee 4
Assignment	1	0	0	6
Assignment	0	0	5	6
Assignment	3	0	0	0
Assignment	3	6	1	0



aazg: Minimization (Assignment Problem)

: signm

Hungarian Method for aazg - Iteration 2 (Final)

From \ To	Assignee 1	Assignee 2	Assignee 3	Assignee 4
Assignment	1	0	0	6
Assignment	0	0	5	6
Assignment	3	0	0	0
Assignment	3	6	1	0



n)

03-17-2019	From	To	Assignment	Unit Cost	Total Cost	Reduced Cost
1	Assignment 1	Assignee 3	1	2	2	0
2	Assignment 2	Assignee 1	1	3	3	0
3	Assignment 3	Assignee 2	1	8	8	0
4	Assignment 4	Assignee 4	1	2	2	0
	<b>Total</b>	<b>Objective</b>	<b>Function</b>	<b>Value =</b>	<b>15</b>	

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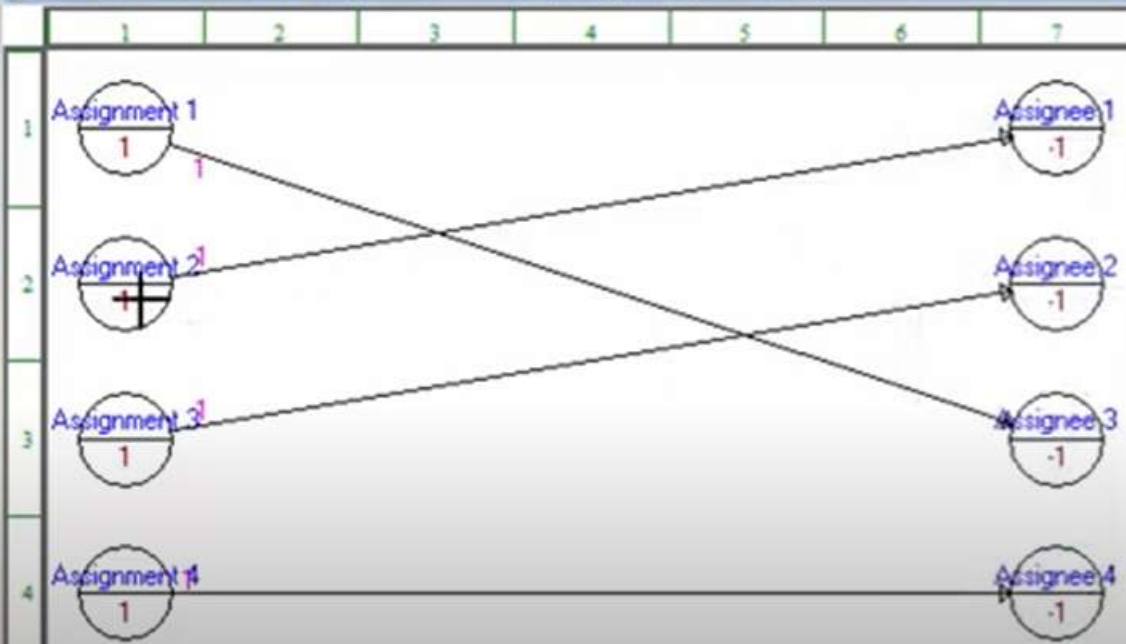
m)

03-17-2019	From	To	Assignment	Unit Cost	Total Cost	Reduced Cost
1	Assignment 1	Assignee 3	1	2	2	0
2	Assignment 2	Assignee 1	1	3	3	0
3	Assignment 3	Assignee 2	1	8	8	0
4	Assignment 4	Assignee 4	1	2	2	0
	Total	Objective	Function	Value =	15	

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02	3	5	7	9
03	9	8	5	6
04	5	10	2	2



## Graphic Solution for aazg: Minimization (Assignment Problem)





- Solve the Problem
- Solve and Display Steps - Network
- Solve and Display Steps - Tableau
- Select Initial Solution Method
- Perform What If Analysis
- Perform Parametric Analysis

Transportation

Demand : 3

From \ To	1	2	3	Supply
A	6	8	10	150
B	7	11	11	175
C	4	5	12	275
Demand	200	100	300	



Transportation

Demand : 3

## Transportation Simplex Initial Solution Method

 Row Minimum (RM)

OK

 Modified Row Minimum (MRM) Column Minimum (CM)

Solve

 Modified Column Minimum (MCM) Northwest Corner Method (NWC)

Cancel

 Matrix Minimum (MM) Vogel's Approximation Method (VAM) Russell's Approximation Method (RAM)

Help

	1	2	3	Supply
1	6	8	10	150
2	7	11	11	175
3	4	5	12	275
Demand	200	100	300	

الخطة الأمانية للتحقق [RM]

1

الخطة الأمانية للتحقق المعدل (MRM)

الخطة الأمانية للعموم [CM]

الخطة الأمانية للتحقق [MCH]

طريقة انتقال - قرب بالتحقق [NWG]

الخطة الأمانية للتحقق [MM]

طريقة انتقال - فحص [VAM]

طريقة انتقال - النقل [RAM]

2

3

4