

EXERCISE FOR MS-EXCEL SOLVER

CHANGE IN GOVERNMENT LABOR LAWS

PART I

Let's consider a small manufacturing plant with 9 employees. Each employee has his own constraints in terms of « days of week availability » and in terms of « maximum hours worked per day ». And, of course, he has an « hour rate ».

Name	Gender	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Max Day	Hour Cost
Christie	F			X	X	X	X		8	10
Corinna	F			X	X	X		X	10	9
Cynthia	F		X	X	X		X		10	9
Karen	F	X	X	X				X	8	10
Michelle	F	X	X		X			X	9	6
Sandy	F	X	X			X	X		9	8
Allan	M	X		X	X		X	X	9	7
Andrew	M	X	X			X	X	X	10	8
Peter	M	X	X	X		X	X		9	7

Also, the labor laws define a « minimum and a maximum number of work hours per week » for this company's type of contract/work.

Limits by law	Min Week	Max Week
	14	42

We want to **maximize production** by exploiting the number of man-hours worked to the maximum. Use the Solver feature in MS-Excel to propose a solution for our needs that respects the constraints.

I.a- What is the maximum possible production (man-hours worked)?

I.b- What is the « average hour rate »?

PART II

The government decides to change the labor laws to handle growing social problems:

- growing number of jobless people: the number of allowed work hours per person will be decreased to encourage companies to hire more people
- mothers leaving their kids' education too early: the « minimum and a maximum number of work hours per week » will be different for men and women

New limits by law	Gender	Min Week	Max Week
	F	12	24
	M	16	32

II.a- What is the new maximum possible production (man-hours worked)?

II.b- And the « average hour rate »?