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Model problem approach from the computer (2)

submmitted to the pattern work:

CONTEXTS OF OPTIMUM IN ECONOMICAL DEVELOPMENT AND FARMING MANAGEMENT. THE INFLUENCE OF TECHNICAL PROGRESS. MATHEMATICAL MODELING

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SUMMARY

Our goal is to solve on computer a model problem about an optimum value and context from a Cobb-Douglas equation (is necessary to see the pattern work). The desired optimum is reported to the human work (number of people) decisional factor L, subject to minimizing and this minimum could be see comparatively with the minimum from the summary no 1.

Enunciation. << Which is the minimum of the number of people L_{min} (expressed in hundred of people) with which an estimated output $Y = 250$ thousand million of lei could be obtained within the context of a pre-established total capital $k = 400$ ($F + C = k = 400$)? – solving on the same peculiar case that in summary (1): $A = 1$ and $\alpha = \frac{1}{2}$, $\beta = \frac{3}{4}$, $\gamma = \frac{1}{4}$ >>.

Table 1

Scenario: the results offered of an Excel representation

2.	*Minimum* from Cobb-Douglas equation						
A=	1	Y=	250				
Alfa=	0,5	k=	400				
Beta=	0,75	F=	300				
Gama=	0,25	C=	100				
Lamda=	1,5	(F+C=k)					
Miu=	0,5	Lmin=	1,20281	100xLmin=	120,281	Rounded:	120

Results interpretation: We can notice from scenario no 2 that the estimated output $Y = 250$ thousand million of lei, we obtain with a minimum number of 120 men and this minimum is reached when the total capital $k = 400$ thousand million of lei is distributed like in summary no 1 as follows: $F = \frac{3k}{4} = 300$, $C = \frac{k}{4} = 100$ thous. million of lei. Comparatively, we can see here a minimum (120 value) bigger that the minimum of the summary no 1 (77 value). The reason is $\frac{k}{Y}$ raport value. Here we have: $\frac{k}{Y} = \frac{400}{250} = \frac{8}{5} = 1,6$ less that the value $\frac{k}{Y} = \frac{200}{100} = 2$ from the summary (1).