Optimizing Methods
Fifth List of Problems

1. For PLP

$$f(x_1, x_2, x_3, x_4, x_5, x_6) = 0,1x_1 + 0,2x_2 + 0,3x_3 + 0,3x_4 + 0,4x_5 \rightarrow min$$

subject to:

$$\begin{gathered} 4x_1 + x_2 + 8x_3 + 5x_4 + 2x_5 \geqslant 12000 \\ x_2 + x_4 + 2x_5 + 3x_6 \geqslant 18000 \end{gathered}$$

with $x_j \geqslant 0$, for $j = 1, 2, \ldots 6$, show the optimal solution.

2. By using **SDR** show that $(1, 2)$ is a solution of PLP, if

$$F(x_1, x_2) = x_1 + 2x_2 \longrightarrow max$$

subject to:

$$\begin{gathered} -x_1 + x_2 \leqslant 1 \\ x_1 - 2x_2 \leqslant 0 \\ x_1 + x_2 \leqslant 3, \end{gathered}$$

where $x_1, x_2 \geqslant 0$.

3. For one of the problems with the list IOM2 (tasks from 2 to 4) must be given an economic interpretation of dual variables.