Golden and silver necklaces

Difficulty level: beginner

Keywords

- Production
- Linear Programming
- Graphical method

Problem description

The *Golden Treasures* company produces two models of necklaces, golden and silver, denoted by A and B, respectively. For A, some special hooks are used, of which 400 units are available every day. B, on the other hand, requires less valuable hooks, for which there is an availability of 700 units per day. The pearls available daily allow the company to produce no more than 800 necklaces in total. In terms of production times, producing a necklace of type A requires twice as long as it takes to make a B necklace. However, if the company only produced B necklaces, it could produce at most 1000 per day. Each A necklace gives a profit of 400 €, whereas each B 300 €. How many A and B necklaces does the company need to produce in order to maximize the total daily revenue?

Tasks

1. Formulate the mathematical model by applying Linear Programming.
2. Find an optimal solution to the problem by using the graphical method.
3. Is the solution found realistic? Why?