Session 6   Advanced Linear Programming I

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1. Section 3.10 Problem 4

   - $x_{i,j,k}$ the number of product k that is produced with the production line i in month j
   - $s_{i,j}$ the number of product i that is stored on month j

   Objective Function:

   $$\min 5(0.15x_{1,1,1}+0.12x_{1,1,2}+0.16x_{2,1,1}+0.14x_{2,1,2}+0.15x_{1,2,1}+0.12x_{1,2,2}+0.16x_{2,2,1}+0.14x_{2,2,2})$$

   $$+0.2(s_{1,1}+x_{2,1})$$

   s.t.

   $$0.15x_{1,1,1}+0.12x_{1,1,2} \le 800$$
   $$0.16x_{2,1,1}+0.14x_{2,1,2} \le 2000$$
   $$0.15x_{1,2,1}+0.12x_{1,2,2} \le 400$$
   $$0.16x_{2,2,1}+0.14x_{2,2,2} \le 1200$$
   $$s_{2,2} \ge 1000$$
   $$s_{2,2} \ge 1000$$
   $$500+x_{1,1,1}+x_{2,1,1} = s_{1,1}+5000$$
   $$750+x_{1,1,2}+x_{2,1,2} = s_{2,1}+2000$$
   $$s_{1,1}+x_{1,2,1}+x_{2,2,1} = s_{1,2}+8000$$
   $$s_{2,1}+x_{1,2,2}+x_{2,2,2} = s_{2,2}+4000$$
   $$x_{i,j,k} \ge 0 \quad \forall i,j,k \in 1,2$$
   $$s_{i,j} \ge 0 \quad \forall i,j \in 1,2$$