

**BUAN/OPRE 6398.003 Prescriptive Analytics  
Homework 3**

**Due 02/07/17  
(5:00 p.m.)**

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Note: 1. Your homework submission must be typewritten.

2. Show only the solutions to the problems and do not copy the problems in the submission.

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1. Reading 2.

2. Use the simplex method to solve the following linear program:

$$\begin{array}{ll} \text{Minimize } Z = & 5x + 2y \\ \text{subject to: } & 3x + 6y \leq 45 \\ & x \geq 9 \\ & x, y \geq 0 \end{array}$$

(Note: Be sure to show your complete work similar to the solutions to Examples 2.6.)

3. Run Solver to solve the Serendipity problem in Question 1 of Homework 1. Be sure to copy and paste the Answer report at the appropriate place in your homework submission and provide interpretation of the results (i.e., the respective optimal numbers of coconuts and lion skins to be carried back and the maximum wealth).
4. Run Solver to solve the personnel scheduling problem in Question 4 of Homework 1. Be sure to copy and paste the Answer report at the appropriate place in your homework submission and provide interpretation of the results (i.e., the minimum number of nurses needed and their optimal work schedule).