**LINEAR PROGRAMMING**

Problem Name: Montana wood products

Max Z = 15 X1 + 21 X2

ST
(1) 4 X1 + 3 X2 <= 920
(2) 8 X1 + 12 X2 <= 2400
(3) X1 >= 100
(4) X2 >= 100

Solution:

Iteration Number 4

Variable Mix       Solution
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Slack 1            20.000
Slack 3            50.000
X1                  150.000
X2                  100.000
Z                   4350.000

Sensitivity Analysis:

Constraints:

<table>
<thead>
<tr>
<th>Constraint Number</th>
<th>Type of Constraint</th>
<th>Shadow Price</th>
<th>For Which Shadow Price Is Valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;=</td>
<td>0.000</td>
<td>900. -- +INF</td>
</tr>
<tr>
<td>2</td>
<td>&lt;=</td>
<td>1.875</td>
<td>2000. -- 2440.</td>
</tr>
<tr>
<td>3</td>
<td>&gt;=</td>
<td>0.000</td>
<td>-INF -- 150.</td>
</tr>
<tr>
<td>4</td>
<td>&gt;=</td>
<td>1.500</td>
<td>93.3333 -- 133.3333</td>
</tr>
</tbody>
</table>

Note: The shadow price represents the amount Z would change if a constraint's RHS changed one unit.

Decision Variables:

Nonbasic Amount Z is reduced (max) or increased (min) variable for one unit of X in the solution

--------- None ---------