ECON 305  
INTERNATIONAL ECONOMICS I  
15 October 2007  
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Exercise 4  
A General Equilibrium Model of Classical Model

1. The following table shows the labor requirements in each country:

<table>
<thead>
<tr>
<th></th>
<th>Computers</th>
<th>Textiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Foreign</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Suppose that labor endowments of Home and Foreign countries are 20 and 80, respectively. Suppose also that preferences are 

\[ U(x_C, x_T) = (0.4) \log(x_C) + (0.6) \log(x_T) \]  

and  

\[ U(x_C^*, x_T^*) = (0.4) \log(x_C^*) + (0.6) \log(x_T^*) \]

where \( x_C \) is consumption of computers and \( x_T \) is consumption of textiles.

(i) Find the demand for computer and textile industries for Home and Foreign.
(ii) Find the equilibrium relative price and relative quantity under autarky for Home and Foreign.
(iii) Find the equilibrium output and labor demand for computer and textile industries under autarky for Home and Foreign.
(iv) Find the relative supply of the World.
(v) Find the relative demand for the World.
(vi) Find the equilibrium relative world price and relative world output.
(vii) Show that both countries gain from trade.
(viii) Show that world gains from trade.