Description A tax area is made up of multiple tax authorities. For example, a tax area might be a city, and the tax authorities might be the city, the city’s county, and the city’s state. When you pay tax on a purchase in the city, the tax rate that you pay is made up of the city tax the county tax and the state tax. Each of these authorities changes there tax independently.

### TaxAreaAuthority

<table>
<thead>
<tr>
<th>TaxAuthority</th>
<th>TaxArea</th>
</tr>
</thead>
<tbody>
<tr>
<td>city1</td>
<td>city1</td>
</tr>
<tr>
<td>city2</td>
<td>city2</td>
</tr>
<tr>
<td>city3</td>
<td>city3</td>
</tr>
<tr>
<td>county1</td>
<td>city1</td>
</tr>
<tr>
<td>county1</td>
<td>city2</td>
</tr>
<tr>
<td>county2</td>
<td>city3</td>
</tr>
<tr>
<td>state1</td>
<td>city1</td>
</tr>
<tr>
<td>state1</td>
<td>city2</td>
</tr>
<tr>
<td>state1</td>
<td>city3</td>
</tr>
</tbody>
</table>

This means that city1 is in county1 of state1 etc.

### TaxRates

<table>
<thead>
<tr>
<th>TaxAuthority</th>
<th>Effective</th>
<th>AuthTaxRate</th>
</tr>
</thead>
<tbody>
<tr>
<td>city1</td>
<td>1993-01-01</td>
<td>1</td>
</tr>
<tr>
<td>city1</td>
<td>1994-01-01</td>
<td>1.5</td>
</tr>
<tr>
<td>city2</td>
<td>1993-09-01</td>
<td>1.5</td>
</tr>
<tr>
<td>city2</td>
<td>1994-01-01</td>
<td>2</td>
</tr>
<tr>
<td>city2</td>
<td>1995-01-01</td>
<td>2.5</td>
</tr>
<tr>
<td>city3</td>
<td>1993-01-01</td>
<td>1.9</td>
</tr>
<tr>
<td>city3</td>
<td>1993-07-01</td>
<td>2.3</td>
</tr>
<tr>
<td>county1</td>
<td>1993-01-01</td>
<td>2.3</td>
</tr>
<tr>
<td>county1</td>
<td>1994-10-01</td>
<td>2.5</td>
</tr>
<tr>
<td>county1</td>
<td>1995-01-01</td>
<td>2.7</td>
</tr>
<tr>
<td>county2</td>
<td>1993-01-01</td>
<td>2.4</td>
</tr>
<tr>
<td>county2</td>
<td>1994-01-01</td>
<td>2.7</td>
</tr>
<tr>
<td>county2</td>
<td>1995-01-01</td>
<td>2.8</td>
</tr>
<tr>
<td>state1</td>
<td>1993-01-01</td>
<td>0.5</td>
</tr>
<tr>
<td>state1</td>
<td>1994-01-01</td>
<td>0.8</td>
</tr>
<tr>
<td>state1</td>
<td>1994-07-01</td>
<td>0.9</td>
</tr>
<tr>
<td>state1</td>
<td>1994-10-01</td>
<td>1.1</td>
</tr>
</tbody>
</table>

### Example

What is the tax rate for city2 on Nov 1 1994:

City2 = 2.0
County1=2.5
State1=1.1
Total=5.6
**Grading** This lab is worth 10 points. Tee the output at submit via canvas.

<table>
<thead>
<tr>
<th>Points</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create the TaxAreaAuthority table</td>
</tr>
<tr>
<td>1</td>
<td>Create the TaxRates table</td>
</tr>
<tr>
<td>1</td>
<td>Populate the TaxAreaAuthority table</td>
</tr>
<tr>
<td>1</td>
<td>Populate the TaxRates table</td>
</tr>
<tr>
<td>1</td>
<td>What county is city2 in?</td>
</tr>
<tr>
<td>1</td>
<td>What state is city2 in?</td>
</tr>
<tr>
<td>2</td>
<td>Easier: If you drop the Effective column and have one record for each city or county or state, What is the rate for city2?</td>
</tr>
<tr>
<td>4</td>
<td>Harder: (Just do either the easy or the hard problem) What is the rate for city2?</td>
</tr>
</tbody>
</table>