Lecture 12
Table Examples
Announcements

● Project 1
  ○ Work + ask questions in section today/tomorrow
  ○ Checkpoint due Thursday 2/22
  ○ Complete by Monday 2/26

● Prelim 1
  ○ Next Thursday evening
  ○ Practice questions posted this weekend
Combining Table Methods
Important Table Methods

- `t.select(column, ...) or t.drop(column, ...)`
- `t.take([row, ...]) or t.exclude([row, ...])`
- `t.sort(column, descending=False, distinct=False)`
- `t.where(column, are.condition(...))`
- `t.apply(function, column, ...)`
- `t.group(column) or t.group(column, function)`
- `t.group([column, ...]) or t.group([column, ...], function)`
- `t.pivot(cols, rows) or t.pivot(cols, rows, vals, function)`
- `t.join(column, other_table, other_table_column)`
## Discussion Question

Generate a table with one row per cafe that has the name and discounted price of its cheapest discounted drink

<table>
<thead>
<tr>
<th>drinks</th>
<th>Cafe</th>
<th>Price</th>
<th>discounts</th>
<th>Location</th>
<th>cheapest</th>
<th>Discounted Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk tea</td>
<td>Panda Tea</td>
<td>4</td>
<td>25%</td>
<td>Panda Tea</td>
<td>Panda Tea</td>
<td>3</td>
</tr>
<tr>
<td>Espresso</td>
<td>Gimme</td>
<td>2</td>
<td>50%</td>
<td>Gimme</td>
<td>Gimme</td>
<td>1</td>
</tr>
<tr>
<td>Latte</td>
<td>Gimme</td>
<td>3</td>
<td>5%</td>
<td>Gimme</td>
<td>Gimme</td>
<td>0</td>
</tr>
<tr>
<td>Espresso</td>
<td>Cafe Gola</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
Sample Prelim Question
Sample Prelim Question

- What is the name of the station where the most rentals ended? (Assume no ties.)
- For how many stations was the average duration of a trip ending at that station at least 10 minutes?

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan Ave &amp; Bedford Ave</td>
<td>Bedford Ave &amp; Nassau Ave</td>
<td>6.06667</td>
</tr>
<tr>
<td>Lafayette St &amp; E 8 St</td>
<td>2 Ave &amp; E 104 St</td>
<td>35.7</td>
</tr>
<tr>
<td>Schermerhorn St &amp; Court St</td>
<td>Court St &amp; Nelson St</td>
<td>5.46667</td>
</tr>
</tbody>
</table>
Advanced Where (Optional)
Comparison Operators

The result of a comparison expression is a bool value.

\[
\begin{align*}
x &= 2 & y &= 3 \\
x &> 1 & x &> y & y &\geq 3 \\
x &= y & x &\neq 2 & 2 &< x < 5 \\
\end{align*}
\]

\text{t.where(array_of_bool_values)} returns a table with only the rows of \text{t} for which the corresponding \text{bool} is \text{True}.

(Demo)
Tax Returns & ZIP Codes

(Demo)