



DSFA

Spring 2018

Lecture 3

Tables

Announcements

- Easy URL for website: datascienceforall.org
 - Videos!
 - Demos!
 - Interactive textbook!
 - Lab 02 available tonight
 - HW 01 due Thursday (bonus point for early submission)
 - Need Vocareum access? Fill out Google form at bottom of website
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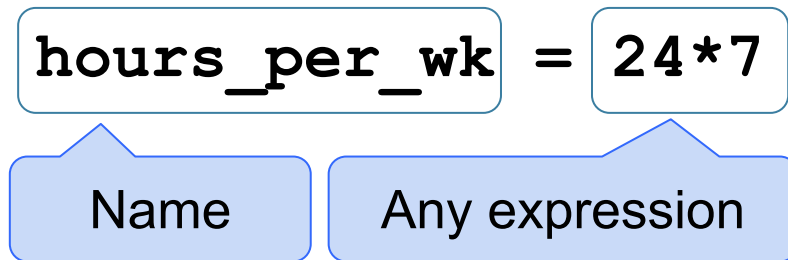
Top Box Office Hit

The highest grossing movie of all time is:

- Avatar
 - Jaws
 - Titanic
 - Star Wars: A New Hope
 - Star Wars: The Force Awakens
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Names

Assignment Statements



- Statements don't have a value; they perform an action
 - An assignment statement changes the meaning of the name to the left of the `=` symbol
 - The name is bound to a value (not an equation)
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Call Expressions

Anatomy of a Call Expression

What
function
to call

Argument to the
function

f(27)

"Call f on 27."

Anatomy of a Call Expression

What
function
to call

First argument

Second
argument

`max` (`15`, `27`)

Tables

Table Structure

- We organize our data in tables
- A Table is a sequence of labeled columns
- Data within a column should be of the same "type"

The diagram illustrates a table with three columns: Name, Code, and Area (m2). The first row contains 'California', 'CA', and '163696'. The second row contains 'Nevada', 'NV', and '110567'. Annotations include a 'Label' box pointing to the 'Code' header, a 'Row' box pointing to the 'Nevada' cell, and a 'Column' box pointing to the 'NV' cell. A blue box highlights the 'NV' cell, and a blue box highlights the '110567' cell. The text '(Demo)' is written in blue to the right of the table.

Name	Code	Area (m2)
California	CA	163696
Nevada	NV	110567

(Demo)

Table Operations

- `t.select(label)` - constructs a new table with just the specified columns
- `t.sort(label)` - constructs a new table, with rows sorted by the specified column

(Demo)

Visualization

- `t.barh(label)` - horizontal bar chart with specified column as the y-axis categories

(Demo)

Table Operations

- `t.where(label, condition)` - constructs a new table with just the rows that match the condition

(Demo)
