

DSFA
Spring 2019

Lecture 3

Tables

Resources

- Piazza, Blackboard, Github, Website
 - URL for website:
<http://www.cs.cornell.edu/courses/cs1380/2019sp>
 - Demos!
 - Interactive textbook!
 - Lab 02 available
 - HW 01 due Thursday (bonus point for early submission)
 - Need Vocareum access? Post on Piazza
-

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
-

Programming Languages

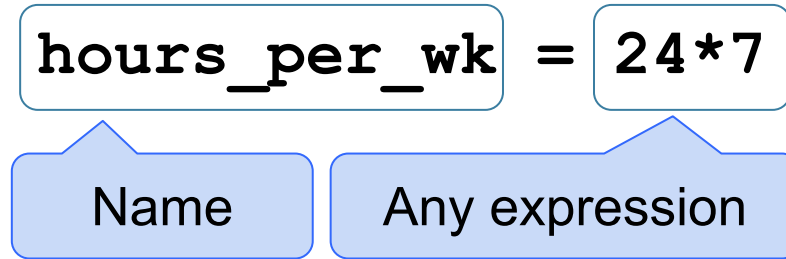
- Python is popular both for data science & software development in general
- Mastering the language fundamentals is critical
- Learn through practice, not just reading or listening



(Demo)

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)
-

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"

| 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)
