Session 1

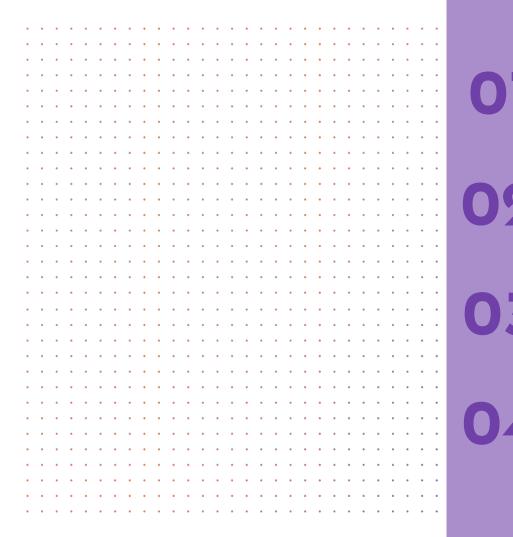
Control Flow -- Part 1

if Statements for Loops Dictionaries

8.20.19

Link to Jupyter Notebooks:

https://mybinder.org/v2/gh/data-voyage-solutions/oag-session-mats/master



Schedule/ Topics

Discuss what to expect from planned training sessions.

Let's look ahead

Get an idea of what's to come in the next few weeks; gather info for project-based learning.

Progress Updates

Recap where we left off and any progress since the pilot workshop.

Jump in

- Control Flow Part 1: if statements and for loops
- Dictionaries

Meeting Date	Module	Sub-topic		
8/20/19	1: Python Fundamentals	Control Flow Part 1 and Dictionaries		
8/27/19		Control Flow Part 2	-	
9/3/19		Versioning Control (Git)		
9/10/19	2: Data Wrangling/ Preparation	Loading data/Intro to Pandas		
9/17/19		Common data cleaning tasks		:
9/24/19		Common errors encountered & solutions	Schedule/ Topics	 •
10/1/19	3: EDA & Intro to Visualizations	Basic summary/descriptive statistics	Topics	 •
10/8/19		How to choose the right/best chart		 •
10/15/19		How to create different visuals in Python		•
10/22/19	4: Visualizations (e.g., Bokeh)	Design principles/Formatting		
10/29/19		Interactive visuals		
11/5/2019		Creating dashboards		 •



Session 1

Control Flow Part 1 and Dictionaries

Session 2

Dictionaries and Control Flow Part 2



Does anyone on team currently use Git?

Is Git used in team workflows?

Or as individual documentation?



Session 3

Versioning Control (Git)

Let's look ahead

Session 4

Loading Data/Intro to Pandas



Project-based learning

Typical Data Sets? Sources--csv, SQL, API

Data loading workflows?

Recap

- Syntax and Operators
- Simple Data Types
- Variables
- Data Structures: Lists, Tuples

Progress Updates

Review

Data Structures (Containers)

lists	dictionaries
	{ k : v }

Control Flow

if statement for loop fu	ınctions
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Control Flow

- for loopsif Statements

Control Flow

A control structure is a block of programming that analyzes variables and chooses a direction in which to go based on given parameters.

• The term **control flow** details the direction the program takes (how program logic "flows"). It determines how a computer will respond when given certain conditions and parameters.

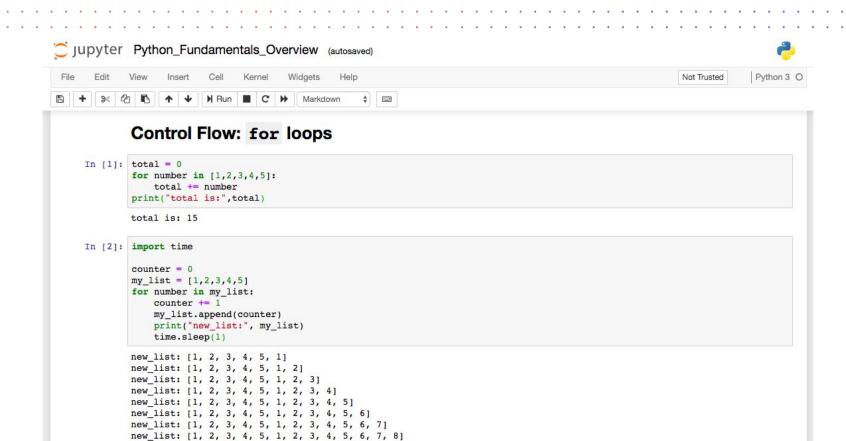
Control Structures

for loop

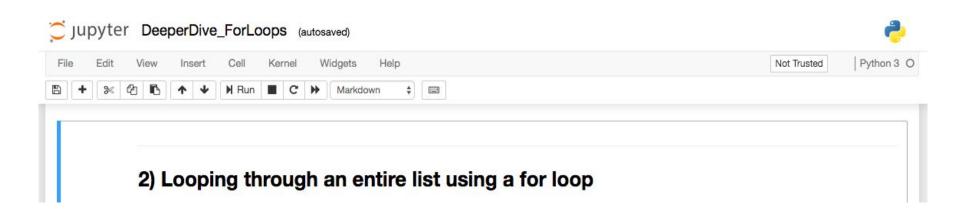
- Repeat operations
- Loop variable takes each value from list in turn
- Indentation controls end of loop
- Watch out for infinite loops!
 - Interrupt or restart kernel when this happens

```
python
users = ["Jeff", "Jay", "Theresa"]

for user in users:
    print("Hello %s" % user)
```



new_list: [1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 6, 7, 8, 9] new list: [1, 2, 3, 4, 5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]



Control Flow

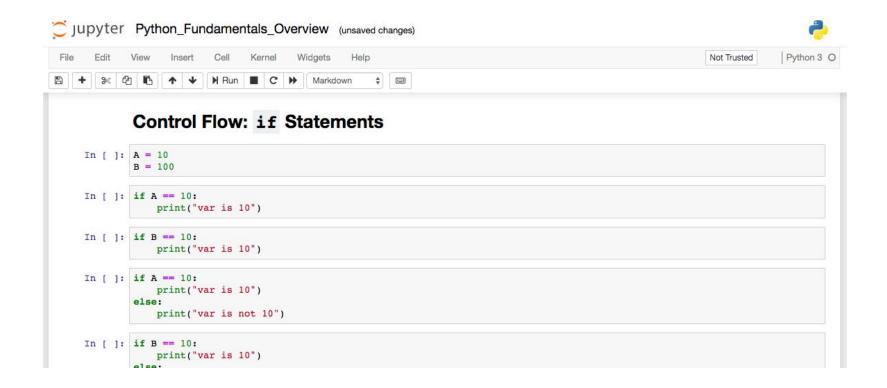
- for loopsif Statements

Control Structures

if / elif / else

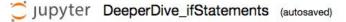
- Check conditions with boolean operators (i.e. <, >, ==)
- Execute a single code block depending on result
- If True: code runs
- Can be:
 - o if alone
 - o if/else
 - o if/elif(s)/else
- Indentation controls end of if block
- Data controls which code runs

```
python
if age_person > 18:
    return "They can drive"
else:
    return "They cannot drive"
```



Control Structures - if / elif / else

```
Python
   A = 10
2 B = 100
  if A>B:
       print("A is larger than B")
   elif A==B:
       print("A is equal to B")
   else:
       print("A is smaller than B")
```







Deeper Dive: if statements

In this section, you will learn to:

- · write conditional tests, which allow you to check any condition of interest.
- · write simple if statements
- · create a more complex series of if statements to identify when the exact conditions you want are present.
- apply this concept to lists, so you'll be able to write a for loop that handles most items in a list one way but handles certain items with specific values in
 a different way

Dictionaries

Next tim

