ETL

Data Boot Camp

Lesson 8.1

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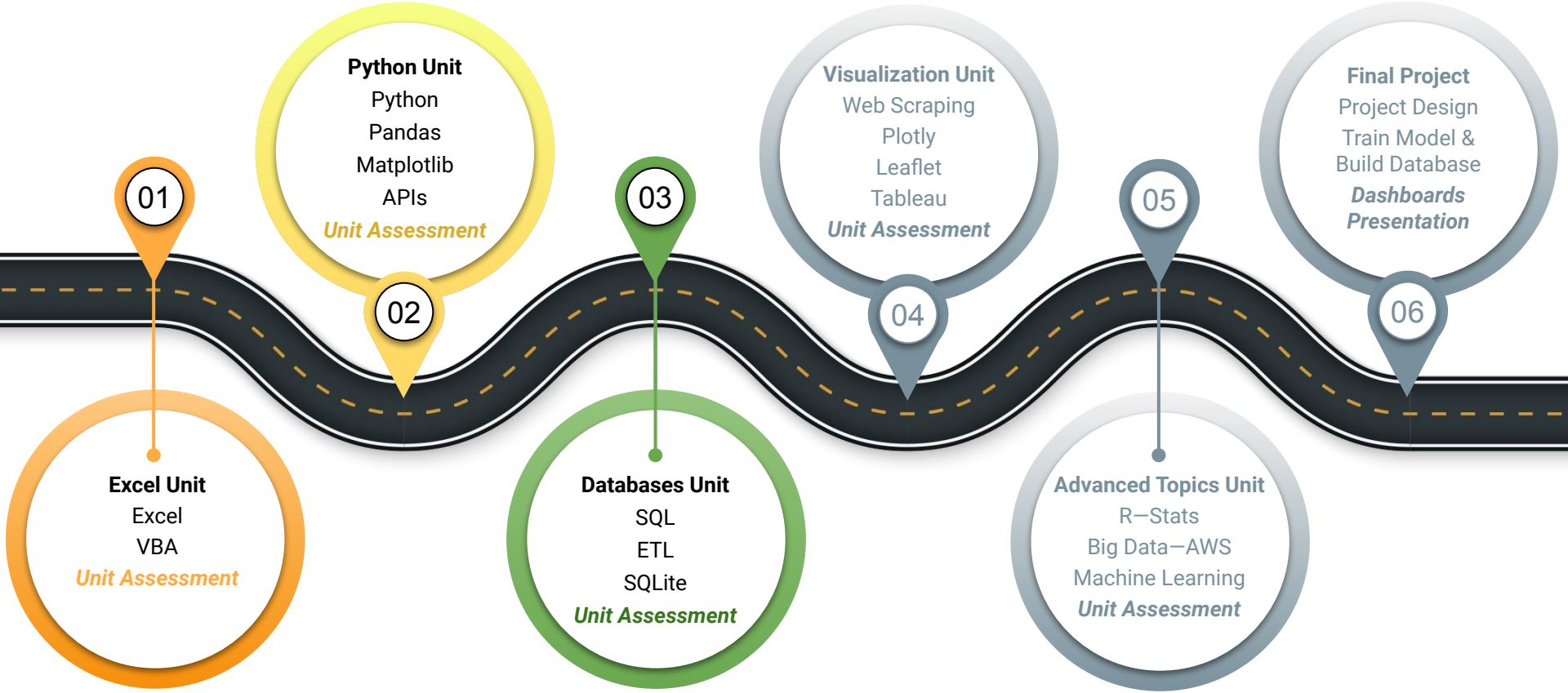
The Big Picture



Bootcamp Pointer:

We’re hitting a conceptually heavy point in the curriculum, and it may feel like a lot more work. Trust the process! Attend Office Hours and ask for help.

Module 8

This Week: ETL

This Week: Extract, Transform, and Load (ETL)

By the end of this week, you'll know how to:

01 Create an ETL pipeline from raw data to a SQL database.

02 Extract data from disparate sources using Python.

03 Clean and transform data using Pandas.

04 Use regular expressions to parse data and to transform text into numbers.

05 Load data with PostgreSQL.

This Week's Challenge

Using the skills learned throughout the week, perform the ETL process across three different data files while using functions, list comprehension, and regular expressions.

Career Connection

How will you use this module's content in your career?

Module 8

How to Succeed This Week

Quick Tip for Success:

The Challenge and activities in this module will be a little less rigid. This is on purpose!

Take this opportunity to step up and make organizational decisions about your data sets that will emulate the work experience. You are empowered to make decisions regarding your data!

Module 8

Today’s Agenda

Today's Agenda

By completing today's activities, you'll learn the following skills:

01 Lambda Functions

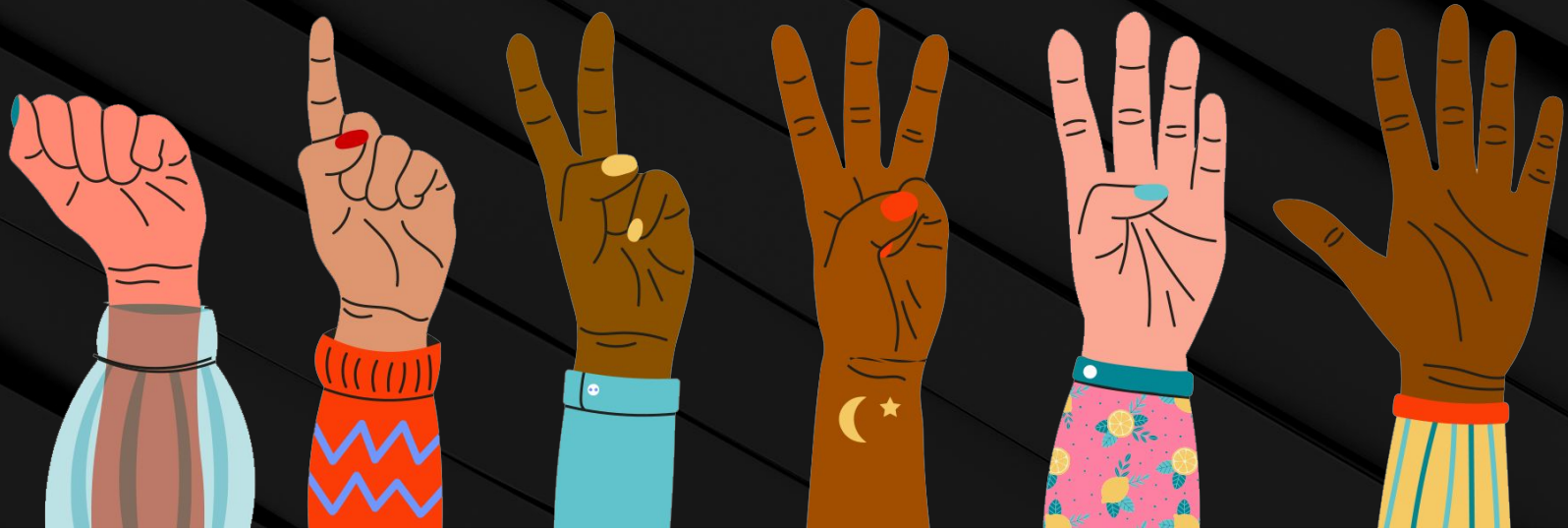
02 Regular Expressions

03 List Comprehensions

Make sure you've downloaded any relevant class files!

FIST TO FIVE:

How comfortable do you feel with this topic?



Functions

Functions

Functions are defined by starting them with `def`, naming the function, and adding parentheses. You can add parameters for the function inside the parentheses, or you can leave the parentheses empty.

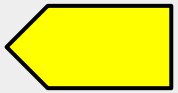
```
# Simple Function with no parameters
def show():
    print(f"Hi!")
```

Functions

You can run a function by calling the name of the function with parentheses.

```
# Simple Function with no parameters
def show():
    print(f"Hi!")

show()
```



Instructor Demonstration

Functions

Questions?

Wrestling With Functions

Suggested Time:

15 minutes

Let's Review

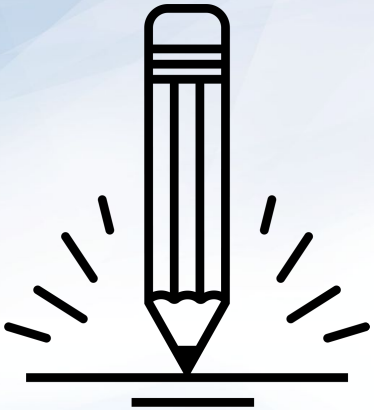
Lambda Functions

Lambda functions let you create functions without giving them a name; therefore, they are referred to as anonymous functions.

Instructor Demonstration

Lambda Functions

Questions?



Group Activity: Lambda Functions

In this activity, you will be taking pre-made functions and replicating the results using lambda functions instead.

Suggested Time:
20 minutes

Let's Review

Conditional List Comprehensions

Comparison Operators

List comprehension uses a conditional expression in four parts:

01 Expression

02 Element

03 Source list

04 Filter expression

Comparison Operators

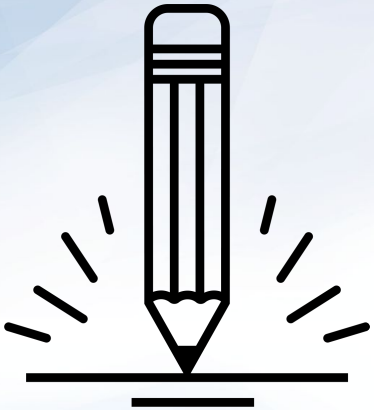
The following operations are supported:

==	tests for equality
!=	tests for inequality
<	less than
<=	less than or equal to
>	greater than
>=	greater than or equal to

Instructor Demonstration

Conditional Comprehension

Questions?



Group Activity: List Comprehensions

In this activity, you will be creating lists with different conditions using list comprehensions.

Suggested Time:
10 minutes

Let's Review

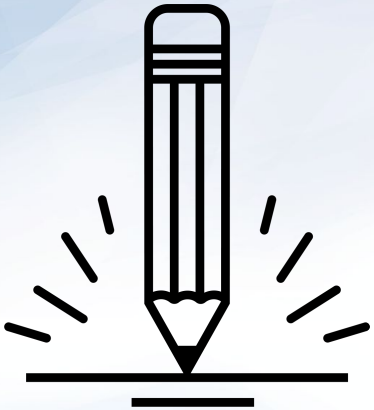
Regex.Matches Method

Regex.Matches Method searches an input string for all occurrences of a regular expression and returns all the matches.

Instructor Demonstration

Basic Regex Matches

Questions?



Activity: Basic Regex Matches

In this activity, you will load in a text data set from *Alice in Wonderland* and use regex expressions to find matching text.

Suggested Time:
15 minutes

Let's Review