

Python Bootcamp

Week 2 - Day 1

Data Structures and JSON

Note:

As this is a guide, do not expect everything to be covered, the most essential and basic information will be provided. You are free and encouraged to Google or research at your own pace.

Data Structures in Python

Data structures are the fundamental constructs around which you build your programs. Each data structure provides a particular way of organizing data so it can be accessed efficiently, depending on your use case. Python ships with an extensive set of data structures in its [standard library](#).

Lists

[Lists](#) are a part of the core Python language. They are built-in and are used to store collections of data.

Tuples

Just like lists, [tuples](#) are part of the Python core language. Unlike lists, however, Python's tuple objects are immutable/unchangeable. This means elements can't be added or removed dynamically—all elements in a tuple must be defined at creation time.

Dictionaries

Dictionaries are used to store data values in *key: value* pairs. Because dictionaries are so important, Python features a robust dictionary implementation that's built directly into the core language: the [dict](#) data type.

A dictionary is a collection which is unordered, changeable and does not allow duplicates.

JSON in Python

JSON stands for Javascript Object Notation. It is a syntax for storing data and exchanging data.

Python comes with a built-in package called [json](#) for encoding and decoding JSON data. You can convert Python objects of the following data types, into JSON strings: dict, list, tuple, string, int, float, True, False, None.

The process of encoding JSON is usually called serialization. This term refers to the transformation of data into a *series of bytes* - hence *serial* - to be stored or transmitted across a network. Naturally, deserialization is the reciprocal process of decoding data that has been stored or delivered in the JSON standard.

Course Material

Look and the demonstrations and examples in the folders [Collections](#) and [json-with-python](#) in this Boot Camp's GitHub repository. You are encouraged to go through and run each file, **ask questions** and **discuss** on Discord and finally, open **Pull Requests** and **Issues** - to help contribute to and improve the code - on Github.