

Data Structures and Programmatic Thinking.

Session 12

Pepe García

2020-04-20

Data Structures and Programmatic Thinking.

Session 12

Plan for today

- Learn what's JSON
- See how it relates to Python data structures

JSON

Javascript Object Notation

What is JSON

JSON is one of the most used data interchange format nowadays. It provides a syntax **easy to understand for humans** and **easy to parse for computers**.

JSON

```
{  
  "numbers": 1234,  
  "strings": "this is a string",  
  "booleans": true,  
  "lists": [1, "string"],  
  "nulls": null,  
  "dictionaries": {  
    "key": "value"  
  }  
}
```

Numbers

1234

Numbers in JSON, like in Python, are declared by just writing their numeric representations

Strings

```
"hello world!"
```

Strings should be declared within double quotes. It's not valid to use single quotes.

Booleans

false

For declaring booleans, we use the lowercased words **true** and **false**

Null

```
null
```

Null declares an empty value, as Python **None**

Lists

```
[1, true, "potato"]
```

Lists are declared within **square brackets** and with elements separated by commas. (they're called **arrays** in JSON)

Dictionaries

```
{  
  "first key": 3,  
  "second key": false  
}
```

Dictionaries (called **objects** in JSON) are declared like in Python. The difference is that **keys must be strings** in JSON objects

Exercises

For these exercises we will use lobste.rs data from the above URL.

1. Download the data to a file called `lobsters.json` and read it from Python
2. Create a function `for *printing*` all the titles.
3. Create a function that returns the number of articles per user.

<https://lobste.rs/hottest.json>