Data Structures and Programmatic Thinking. Session 12

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https://slides.com/pepegar/dspt-12/live

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

```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