

7.79 - Leaflet - Dictionaries

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0.1 Dictionaries in Python

Dictionaries are incredibly useful, as you can do the following:

- You can save value assignments (e.g. phone book: A last name has a phone number).
- You can change / remove / add elements later.
- You will need dictionaries again and again...

Let's make an example...

```
In [1]: d = {"Berlin": "BER", "Helsinki": "HEL", "Saigon": "SGN"}
```

```
In [2]: print(d)
```

```
{'Berlin': 'BER', 'Helsinki': 'HEL', 'Saigon': 'SGN'}
```

Access a single element:

```
In [3]: print(d["Helsinki"])
```

```
HEL
```

Reassign or add an element:

```
In [4]: d["Budapest"] = "BUD"
```

```
In [8]: print(d)
```

```
{'Berlin': 'BER', 'Helsinki': 'HEL', 'Saigon': 'SGN', 'Budapest': 'BUD'}
```

0.2 Remove an element

```
In [5]: del d["Budapest"]
```

```
In [6]: print(d)
```

```
{'Berlin': 'BER', 'Helsinki': 'HEL', 'Saigon': 'SGN'}
```

0.3 Query: Is element in Dictionary?

```
In [7]: if "Budapest" in d:
        print("Budapest is included in the Dictionary")
        if "Saigon" in d:
            print("Saigon is included in the Dicionary")
```

Saigon is included in the Dictionary

0.4 Access elements...

```
In [8]: print(d["Saigon"])
        print(d.get("Saigon"))
```

SGN
SGN

```
In [9]: print(d["Budapest"])
```

```
-----
KeyError                                Traceback (most recent call last)

<ipython-input-9-a5640edcb8ab> in <module>()
----> 1 print(d["Budapest"])
```

KeyError: 'Budapest'

```
In [10]: print(d.get("Budapest"))
```

None

0.5 Dictionaries and loops

In Dictionaries 2, you have two ways to go through them with a for loop.
Either directly, then you go through the keys:

```
In [12]: d = {"Munich": "MUC", "Budapest": "BUD", "Helsinki": "HEL"}

        for key in d:
            value = d[key]
            print(key)
            print(value)
```

```
Munich  
MUC  
Budapest  
BUD  
Helsinki  
HEL
```

Or use the `.items()` method, so you can scroll through keys + value directly:

```
In [13]: for key, value in d.items():  
         print(key + ": " + value)
```

```
Munich: MUC  
Budapest: BUD  
Helsinki: HEL
```