

Curso python udemy

Cheatsheet: Data Types

- Integers are used to represent whole numbers:

```
rank = 10
eggs = 12
people = 3
```

- Floats represent decimal numbers:

```
temperature = 10.2
rainfall = 5.98
elevation = 1031.88
```

- Strings represent text:

```
message = "Welcome to our online shop!"
name = "John"
serial = "R001991981SW"
```

- Lists represent arrays of values that may change during the course of the program:

```
members = ["Sim Soony", "Marry Roundknee", "Jack Corridor"]
pixel_values = [252, 251, 251, 253, 250, 248, 247]
```

- Dictionaries represent pairs of keys and values:

```
phone_numbers = {"John Smith": "+37682929928", "Marry Simpons":
"+423998200919"}
volcano_elevations = {"Glacier Peak": 3213.9, "Rainer": 4392.1}
```

- Keys of a dictionary can be extracted with:

```
phone_numbers.keys()
```

- Values of a dictionary can be extracted with:

```
phone_numbers.values()
```

- Tuples represent arrays of values that are not to be changed during the course of the program:

```
vowels = ('a', 'e', 'i', 'o', 'u')
one_digits = (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)
```

- You can get a list of attributes of a data type has using:

```
dir(str)
dir(list)
dir(dict)
```

- You can get a list of Python builtin functions using:

```
dir(__builtins__)
```

- You can get the documentation of a Python data type using:

```
help(str)
help(str.replace)
help(dict.values)
```

Tip: Converting Between Datatypes

Sometimes you might need to convert between different data types in Python for one reason or another. That is very easy to do:

- From tuple to list:

```
cool_tuple = (1, 2, 3)
cool_list = list(cool_tuple)
cool_list # [1, 2, 3]
```

- From list to tuple:

```
cool_list = [1, 2, 3]
cool_tuple = tuple(cool_list)
cool_tuple # (1, 2, 3)
```

- From string to list:

```
cool_string = "Hello"
cool_list = list(cool_string)
cool_list # ['H', 'e', 'l', 'l', 'o']
```

- From list to string:

```
cool_list = ['H', 'e', 'l', 'l', 'o']
cool_string = str.join("", cool_list)
cool_string # 'Hello'
```

As can be seen above, converting a list into a string is more complex. Here `str()` is not sufficient. We need `str.join()`. Try running the code above again, but this time using `str.join(«—», cool_list)` in the second line. You will understand how `str.join()` works.

Cheatsheet: Operations with Data Types

- Lists, strings, and tuples have a positive index system:

```
["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
  0      1      2      3      4      5      6
```

- And they have a negative index system as well:

```
["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
```

```
-7 -6 -5 -4 -3 -2 -1
```

- In a list, the 2nd, 3rd, and 4th items can be accessed with:

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
days[1:4]
Output: ['Tue', 'Wed', 'Thu']
```

- First three items of a list:

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
days[:3]
Output: ['Mon', 'Tue', 'Wed']
```

- Last three items of a list:

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
days[-3:]
Output: ['Fri', 'Sat', 'Sun']
```

- Everything but the last:

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
days[:-1]
Output: ['Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat']
```

- Everything but the last two:

```
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
days[:-2]
Output: ['Mon', 'Tue', 'Wed', 'Thu', 'Fri']
```

- A dictionary value can be accessed using its corresponding dictionary key:

```
phone_numbers = {"John": "+37682929928", "Marry": "+423998200919"}
phone_numbers["Marry"]
Output: '+423998200919'
```

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