

- -> notebooks from this lecture: <https://github.com/ine-rmotr-curriculum/ds-content-python-under-10-minutes>
- -> iterating over collections with a for loop
- -> **the default iteration is by key**
  - -> email
  - -> name
  - -> data subscribed
  - -> you can do for user in user.values
  - -> or you can iterate over key and values
  - -> iteration in Python is readable
  - -> we are using a for loop which assumes we are iterating over a collection
    - -> we aren't using for i in ...
    - -> we can simulate it with for i in range
    - -> the range function which generates the elements
- -> **Python builtin modules**
  - -> security
  - -> web development
  - -> game development
  - -> graphical user interfaces
  - -> there are libraries which are for the context you need which have already been coded
  - -> third party libraries, vs libraries which have been created by the Python core team
  - -> there are differences between modules and packages
  - -> the random number generator is already builtin
- -> **exceptions**
  - -> for example if the age has a range
  - -> try and except <- for exceptions in case something fails
    - -> we can catch the exceptions
    - -> this is useful if we are coming from other languages
    - -> web development, machine learning and data visualisation

### • -> **question**

How would you iterate over and print the keys and values of a dictionary named user?

Options:

```
for key in user.items():
    print(key)
```

```
for key, value in user.all():
    print(key, value)
    print(value)
```

```
for key, value in user.items(): <- This one
    print(key, value)
```

```
for key, value in user
    print(key, value)
```