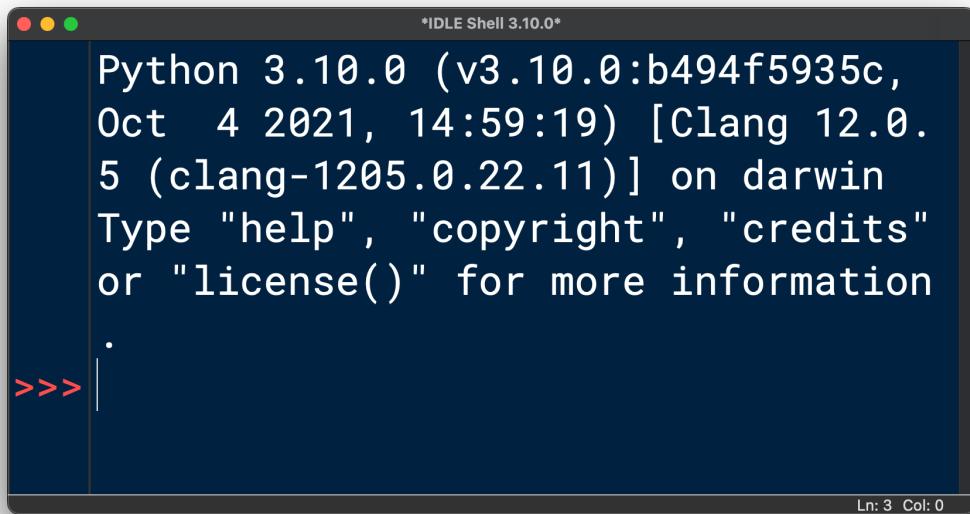


PYTHON BASICS: DICTIONARIES

Before You Start

Editor:

- **IDLE: Integrated Development and Learning Environment**



The screenshot shows the IDLE Shell 3.10.0 interface. The title bar reads "*IDLE Shell 3.10.0*". The main window displays the following text:
Python 3.10.0 (v3.10.0:b494f5935c,
Oct 4 2021, 14:59:19) [Clang 12.0.
5 (clang-1205.0.22.11)] on darwin
Type "help", "copyright", "credits"
or "license()" for more information
.
>>> |
Ln: 3 Col: 0

Resources:



Python Basics: Setting Up Python



Starting With Python
IDLE

Table of Contents

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- 5. Checking the Existence of Dictionary Keys
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- 8. Testing Yourself With a Challenge
- 9. Summary and Additional Resources

Introducing Dictionaries



What Is a Dictionary

Word	Definition
Dog	A mammal with sharp teeth, an excellent sense of smell, and a fine sense of hearing.

What Is a Dictionary

English	German
Dog	Hund

What Is a Dictionary

My Dog

- **Name:** Frieda
- **Age:** 5

What Is a Dictionary

My Dog

- **Name:** Frieda
- **Age:** 5

```
my_dog = {  
    "name": "Frieda",  
    "age": 5,  
}
```

What Is a Dictionary

- Dictionaries store a collection of objects
- Each object has two parts:
 - **key**
 - **value**

```
my_dog = {  
    "name": "Frieda",  
    "age": 5,  
}
```

Creating Dictionaries



Example: Capitals

Key	Value
California	Sacramento
New York	Albany
Texas	Austin

Example: Capitals

```
{  
    "California": "Sacramento",  
    "New York": "Albany",  
    "Texas": "Austin",  
}
```

Dictionary Key Types



- Strings
- Integers
- Floats
- Booleans
- Tuples

Dictionary Key Types



- Strings
- Integers
- Floats
- Booleans
- Tuples

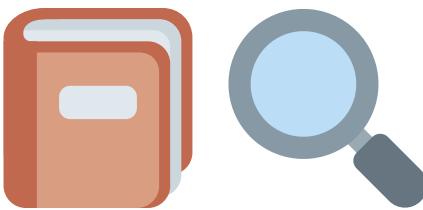


- Lists
- Dictionaries

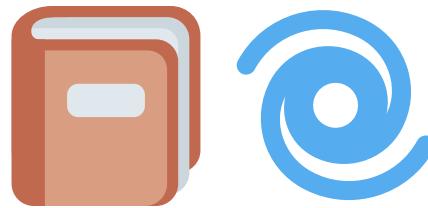
Working With Dictionary Values



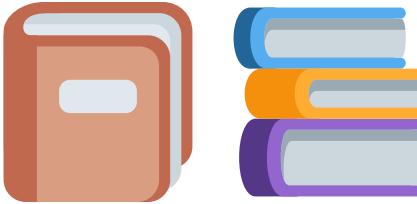
Checking the Existence of Dictionary Keys



Iterating Over Dictionaries



Nesting Dictionaries



Testing Yourself With a Challenge

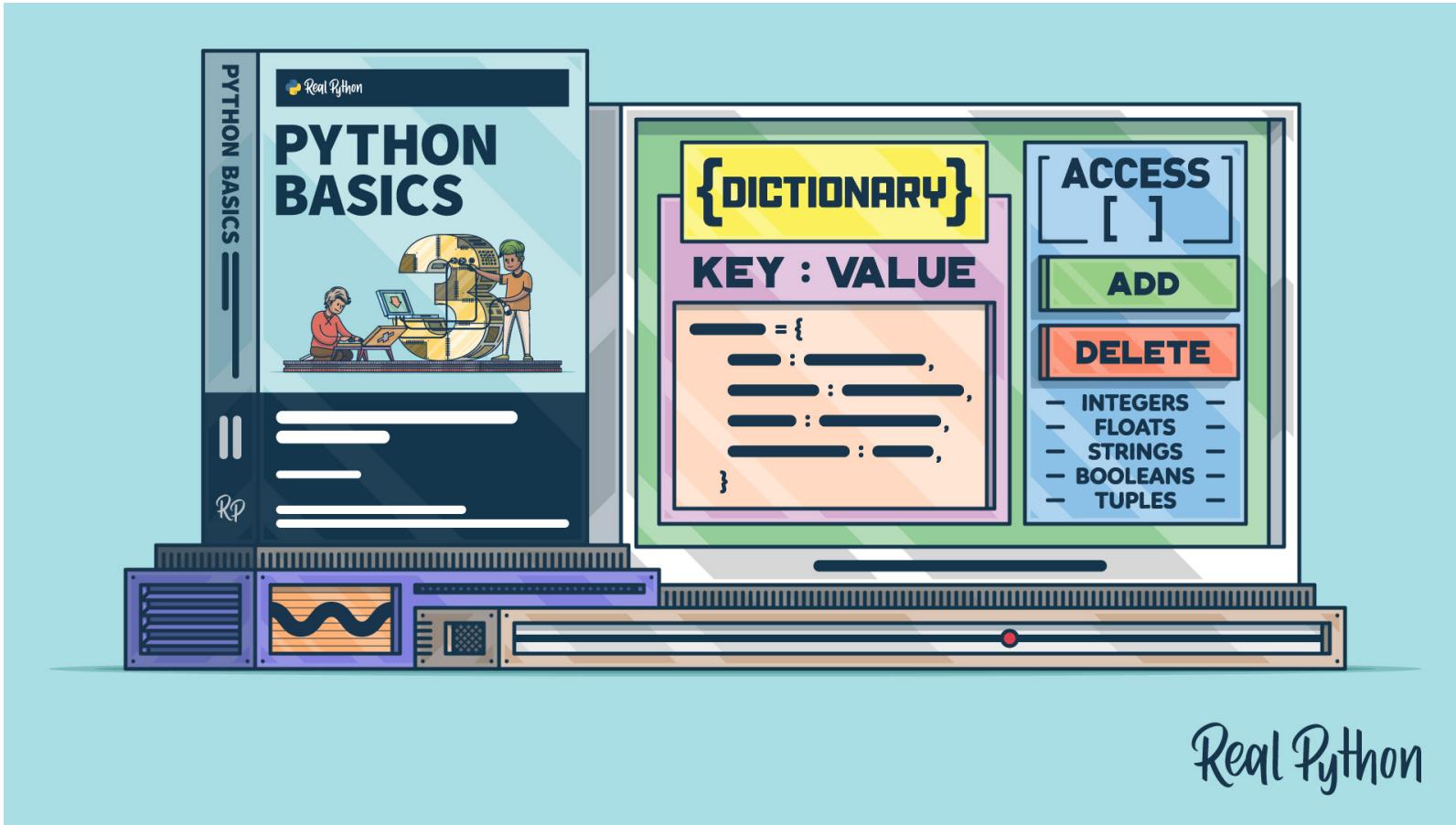




Challenge

1. Create an empty dictionary named `captains`.
2. Enter the following data into the dictionary one item at a time:
 - o `"Enterprise"` ➔ `"Picard"`
 - o `"Voyager"` ➔ `"Janeway"`
 - o `"Defiant"` ➔ `"Sisko"`
3. Write two `if` statements that check if `"Enterprise"` and `"Discovery"` exist as keys in the dictionary.
 - o Set their values to `"unknown"` if the key does not exist.
4. Write a `for` loop to display the ship and captain names contained in the dictionary.
 - o For example: `"The Enterprise is captained by Picard."`
5. Delete `"Discovery"` from the dictionary.

Summary and Additional Resources

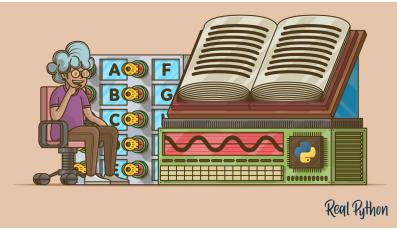


Real Python

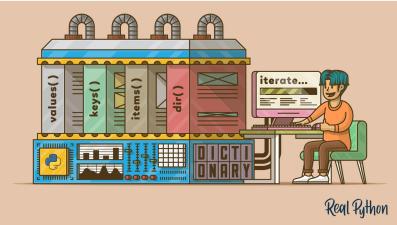
In this course you learned how to:

- Create dictionaries
- Work with dictionary values
- Check the existence of dictionary keys
- Iterate over dictionaries
- Nest dictionaries

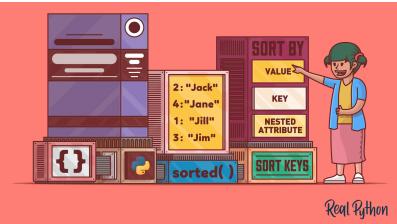
Additional Resources



Dictionaries in Python

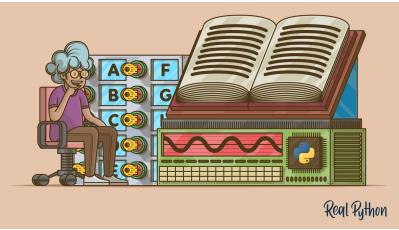


How to Iterate Through a Dictionary in Python

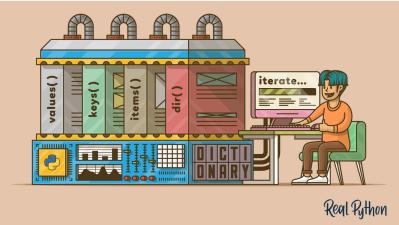


Sorting a Python Dictionary: Values, Keys, and More

Test Your Knowledge



Python Dictionaries Quiz



Python Dictionary Iteration Quiz



```
>>> my_dog["needs_to_go_out"]  
True
```

