PYTHON

pip install
--target=your:brain

GIULIANA CARULLO

pip install python

–target=your:brain

Giuliana Carullo

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Also By Giuliana Carullo

Contents

Preface

Welcome to a quick guide during which you will learn the foundation of programming in Python.

This book will provide you guidance on:

1. modular and Object Oriented Programming;
2. all you need to have a good basic, whilst solid knowledge about Python syntax;
3. some exercise to learn Python: let's keep it practical

Why this Book?

Who This Book is Meant For

If you are new to programming - in general - this book is right for you. Indeed it walks through the foundation of programming, meanwhile getting your finger in the Py-thon!

Fundamentals

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The beloved hello world

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The main

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Introduction

This book is broken down into 11 core Chapters:

1. **Fundamentals**: The best way to learn something is by practicing it. Let's start our journey into Python with some general principles and some hands on examples.
2. **Basic Types**: All you need to know about type support in Python. Strings, numeric types, plus...some more!
3. **Statements**: Oh dear, where do we start? Statements! Let's start figuring out how to organize your code and what support Python gives you to have your code nicely and crisply organized!
4. **Variables**: The recipe of our Py-thon! Let's put all our ingredients in!
5. **Python Objects**: How many times you had to separate ingredients in different bowls, to assemble the after? Let's figure this out!
6. **Polymorphism**: Which "Py" do we want today? Learn the differences between assemblying the "Py" and getting a "Py" in different flavors!
7. **Conditionals flows**: Describing the steps of your recipe! Let's bake it!
8. **Loops**: More than a single "Py"? I've got you covered!
9. **Files**: Fridge? Freezer? Learn some basic steps to store your "Py" and eat it too.
10. **Error handling**: "Py" on a fire? Learn how to handle it!
11. **Documentation**: The cook-book. Learn how to write one.

About the book

pip install python is meant for those who want to start moving their first steps with Python and programming in general.

Hence, you will learn the basics of python and the foundation of programming, without unneeded fluff. Start now getting your finger in the Py-thon!

About pricing

It works as a very first step into Python programming, thus specifically aimed at first-time programmers. Nonetheless, it embraces all the main concepts needed to really understand the code you will write in your programming life.
Writing a book takes a lot of work, months if not years, but let's do things right. Hence, I decided to keep the minimum price low (a fiver). So that also students can easily afford it as a reference guide.

If you enjoy my books and you want to support my writing, you have several options:

1. Leanpub pricing strategy, so you can really pick any price you want, appreciate your support!
2. go a step further in your knowledge and skills with Code Reviews 101[1] or any other of my writings.

Meanwhile, hope you will enjoy!

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[1]https://leanpub.com/codereviews101thewisdomofgoodcoding

Basic Types

Numeric Types

Basic numeric types in Python are:

- integers
- float
- complex

Integers are finite numbers, either positive or negative, without decimals.

```
1   num_int_pos = 42
2   num_int_neg = -42
```

Float numbers are numbers, either positive or negative, with decimals. Python also supports the scientific notation, as show in the following snippet (line 3).

```
1   num_float_pos = 42.0
2   num_float_neg = -42.0
3   num_float_scientific = 42e2
```

Just as a reminder, the scientific notation - which is indicated with an e or an E - defines the power of 10 of the given number. In the example above, we declared a scientific number which is the power 10 of 42.

Putting all together, run the following code to match numbers to their relative type counterpart.

```
1   numbers = (42, -42, 42.0, -42.0, 42e2)
2
3   for n in numbers:
4       print(type(n))
```

The output will look like:

```
1   >>> <class 'int'>
2   >>> <class 'int'>
3   >>> <class 'float'>
4   >>> <class 'float'>
5   >>> <class 'float'>
```

Even if you will encounter them way less often in your day to day programming, it is worth to mention that Python also supports **complex** numbers. In mathematical terms, a complex number is one that has a <u>real</u> part and an <u>imaginary</u> one. This type of number can be expressed as:

```
1   num_complex = 42+1j
```

In this example, 42 is the real portion, while the j indicates the imaginary counterpart.

Strings

A strings is a sequence of characters. In Python, strings are declared by wrapping characters either with a single or double quotation mark.

Hence:

```
1   var_string = 'hello Python!'
```

is the same as:

```
1   var_string = "hello Python!"
```

even if I recommend maintaining consistency of the notation you want to use in your code for the sake of uniformity and readability.

Other types

Coding Practice of the day

1. **Warm up**
2. **Medium**
3. **Power up**

Solutions

Structure of a Python Program

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Putting it all together

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About the author

Giuliana Carullo, CCSK certified, has computer science in her DNA and has been programming for more than a decade. She holds a Master Degree in Computer Science and she's been doing research for the last six years, whilst wearing another hat: the project manager.

Giuliana is in love with the intersection point between science and human behavior. She believes that there is more than one way to good, much more to do bad, but she ends up being really opinionated on what good is.

In her spare time, she loves to write and to help others in doing their best at their jobs and with their careers.

More from Giuliana Carullo

Code Reviews 101: The Wisdom of Good Coding

Given her strong background on Software Engineering, Giuliana Carullo shows readers how to perform Code Reviews. What you will get away with from this book is knowledge covering a wide scope of challenges and practices on good coding from code, design and architectural smells to measures, processed and methodologies to perform reviews– the right way. If you want to have some fun, check it out.
Code Reviews 101[2]

Technical Leadership: Dreams, success and unicorns.

Given her experience with software engineering teams, Giuliana Carullo presents readers a - very opinionated - view on what makes or breaks a good technical leader.

This book is not yet another book on influencing people and on how to communicate properly. These are massively important skills, and plenty of amazing books have been already written on these topics. It born as a vision – often times really personal – on who a technical leader is, how he/she acts and what it takes to be a good one.
Technical Leadership[3]

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[2]https://leanpub.com/codereviews101thewisdomofgoodcoding
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Even if care is taken to ensure accuracy of this book, some errors can happen.

> Anything that can go wrong will go wrong - Murphy

If you find a mistake, a typo, something missing, please report it, so I can improve the book.