

Programming in Python for Beginners

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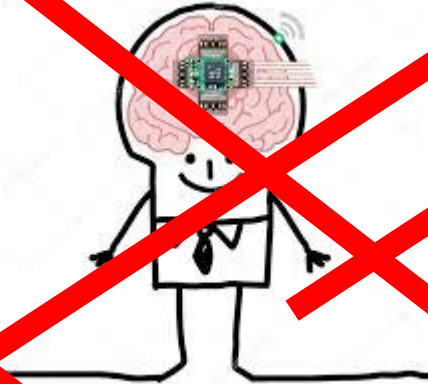
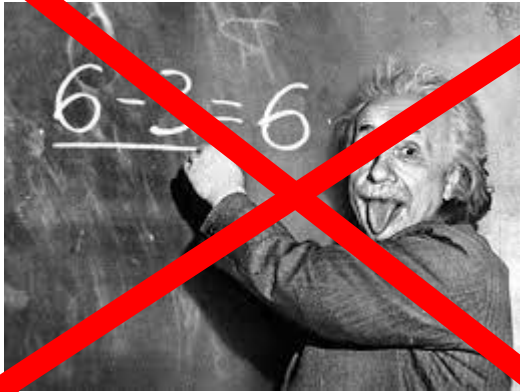
Plan for the day

1. Intro
2. First Steps in Python
3. Write your own game

Lunch!

4. Some more basics
 5. Improve your game
 6. What's next
-

Prerequisites



What is Python Good for



Text Message
Today 15:08



Save the date!

Lauren and Thomas are delighted to invite you to our wedding.

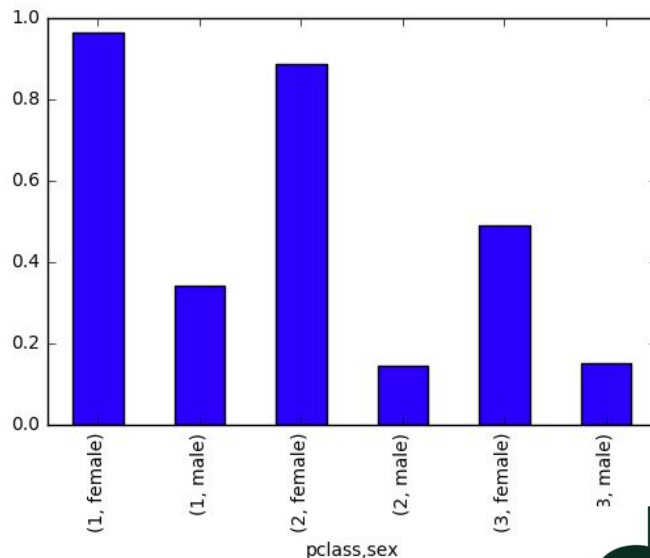
Saturday 3rd September 2016.

Awesome Hall,
Amazing Town.

The Ceremony begins at 2pm.

More details will follow shortly!

Please text YES if you are saving the date and can join us or text NO if sadly, you won't be able to be with us.



django

Ways of Writing </>

IN TERMINAL:

```
((test-env) MacBook-Air:test mariededikova$ python
Python 3.6.1 (default, Jul 4 2017, 14:32:26)
[GCC 4.2.1 Compatible Apple LLVM 8.0.0 (clang-800.0.42.1)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
[>>> print("Hello World!")
Hello World!
>>> █
```

IN CODE EDITOR:

```
1 from django.db import models
2
3
4 class Role(models.Model):
5     name = models.CharField(max_length=30)
6
7     def __str__(self):
8         return self.name
9
10
11 class Address(models.Model):
12     street = models.CharField(max_length=40)
13     house_number = models.CharField(max_length=40)
14     post_code = models.IntegerField()
15     city = models.CharField(max_length=30)
16     country = models.CharField(max_length=20)
17
18
19 class Person(models.Model):
20     first_name = models.CharField(max_length=30)
21     last_name = models.CharField(max_length=30)
22     roles = models.ManyToManyField(Role, related_name="people")
23     address = models.ForeignKey(Address, null=True)
24
25     def __str__(self):
26         return '{} {}'.format(self.first_name, self.last_name)
27
```

Do not copy - paste!!!

Writing CODE is understanding!

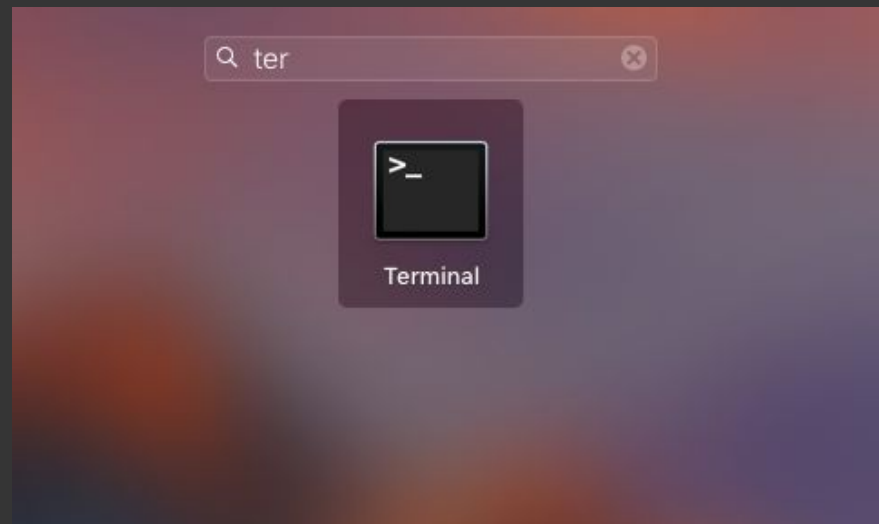
It is ok not to understand!

1. You will understand later
2. Most programmer do not know too.

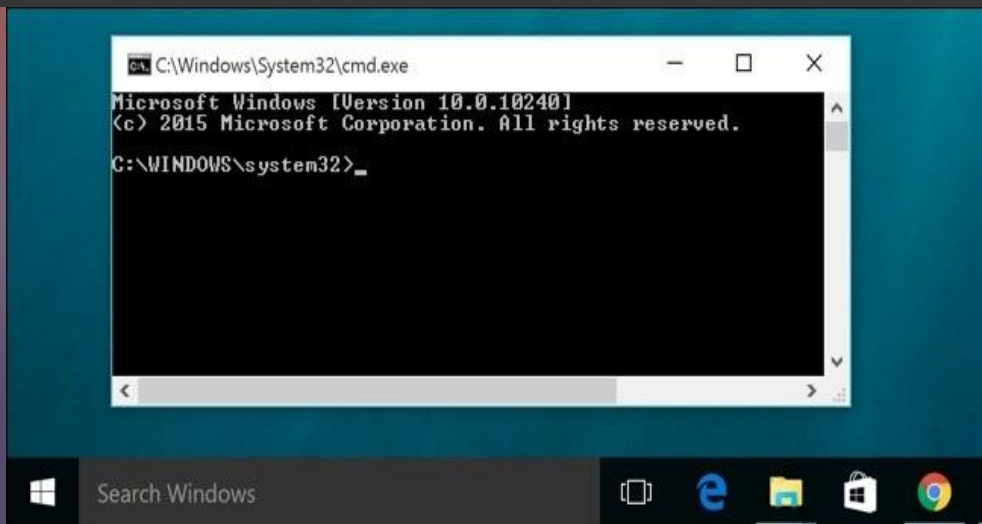
**Let's write
some code!**

Go to your Terminal

Mac



Win



Type “python3”

Mac & Win

```
Last login: Mon Oct  2 13:13:18 on ttys000
Admins-MacBook-Pro:~ Admin$ python3
Python 3.4.4 (v3.4.4:737efcadf5a6, Dec 19 2015, 20:38:52)
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "help", "copyright", "credits" or "license" for more
>>> █
```

Printing & Variables

```
print("Hello World")
```

```
name = "Marie"  
print(name)
```

```
name * 4  
name.upper()
```

Simple Math

```
dogs = 4
```

```
cats = 3
```

```
snakes = 2
```

```
total = dogs + cats + snakes
```

```
print(total)
```

```
# But the weather was weird and 3x more snakes were born.
```

```
snakes = 3 * snakes
```

```
dogs = dogs - 3
```

Compare Things

4 > 2

5 < 1

1 == 1

5 != 2

6 >= 12 / 2

5 <= 6

6 > 2 and 2 < 3

6 > 2 and 2 > 3

6 > 2 or 2 > 3

Boolean - True or False

a = True

a

b = 2 > 5

b

True and True

False and True

True or 1 != 1

Errors are friends! :)

```
len(23493)
str(23493)
len(str(23493))
```

```
city = "Tokyo"
print(ctyi)
```

```
print(flower)
3 > "Python"
```

IF Statements

```
people = 20  
cats = 5
```

```
# Try this:
```

```
if people > cats:  
    print("The world is dry!")  
# Do you get an error? Why?
```

```
# Try again:
```

```
if people > cats:  
    print("The world is dry!")
```


ELSE Condition

```
cats += 20
```

```
if people > cats:  
    print("The world is boring!")  
else:  
    print("Ohh, way too many cats!")
```

ELIF Condition

```
volume = 38
```

```
if volume < 20:  
    print("It's kinda quiet.")  
elif 20 <= volume < 40:  
    print("It's nice for background music")  
else:  
    print("My ears are hurting! :(")
```

Formatting Strings

```
name = "Ada"  
print("Hello %s" % (name))
```

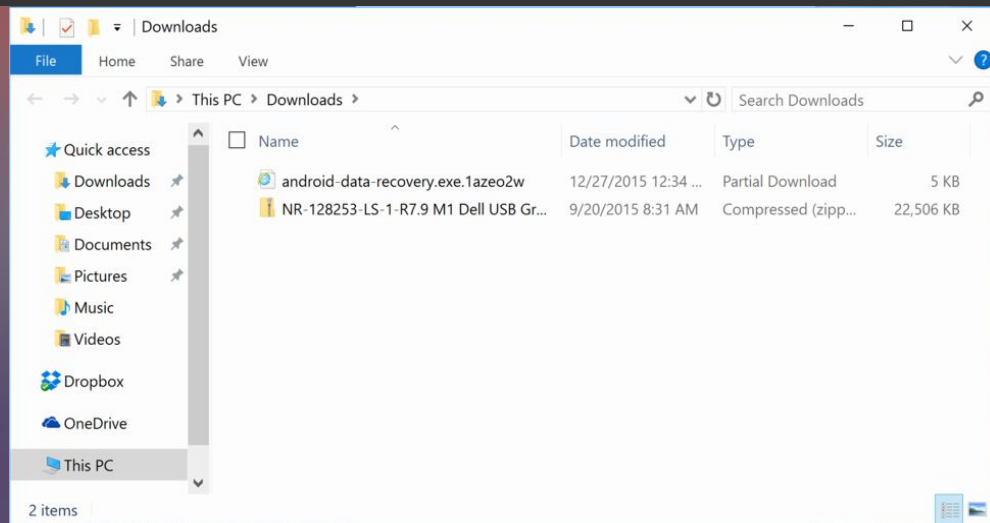
**Let's use
code editor!**

Open Sublime Text

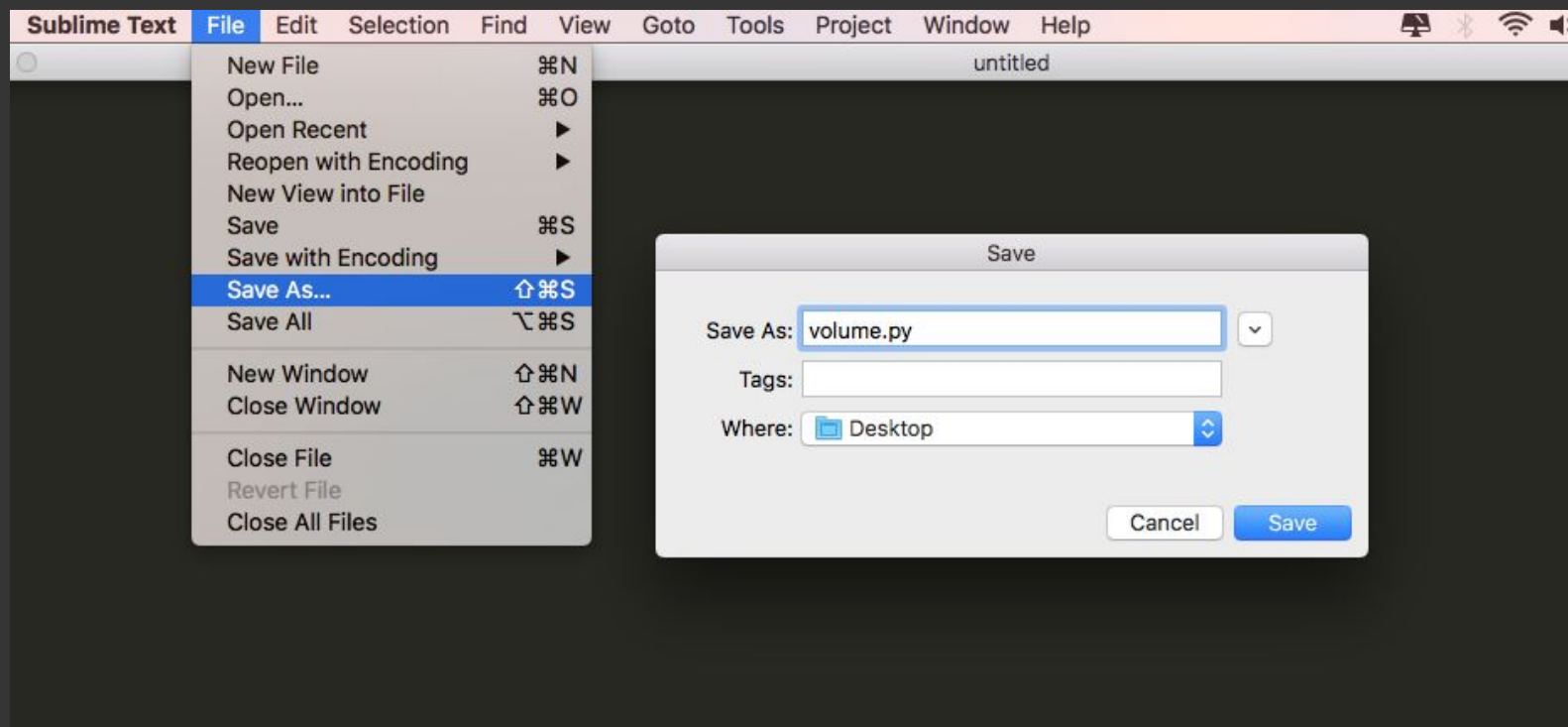
Mac



Win



Save as...



Write This + Save:

```
print("The world is beautiful! Enjoy it as much you can!")
```

Switch Like a Pro!

Mac



Win



Change Directory

Mac

Change directory: OS X

On a Mac, the command will look something like this:

command-line

```
$ cd ~/Desktop
```

Win

Change directory: Windows Powershell

And on Windows Powershell, it will be like this:

command-line

```
> cd $Home\Desktop
```

Execute the File

Mac

```
$ python3 volume.py
```

Win

```
> python3 volume.py
```

Write This + Save:

```
print("The world is beautiful! Enjoy it as much you can!")
```

```
echo // input()
```

Build your own text adventure.

With Python and the Shell

—

Task 1

Type the text adventure
and add the door “2”.

Lessons learned:
Conditional Statements
& Comparator 'equal to'

—

Task 2

Ask the player
for her name and
use it in the game.

Lessons learned:
String replacement
with %s and %

Push your files to Github

1. Open a new window in the shell and move (with `cd foldername`) to the directory

2. Type:

```
git status
```

```
git add .
```

```
git commit -m "my python adventure"
```

```
git push
```

3. Check if you find your files on github.com
-

Green fields!!! Yeay!!

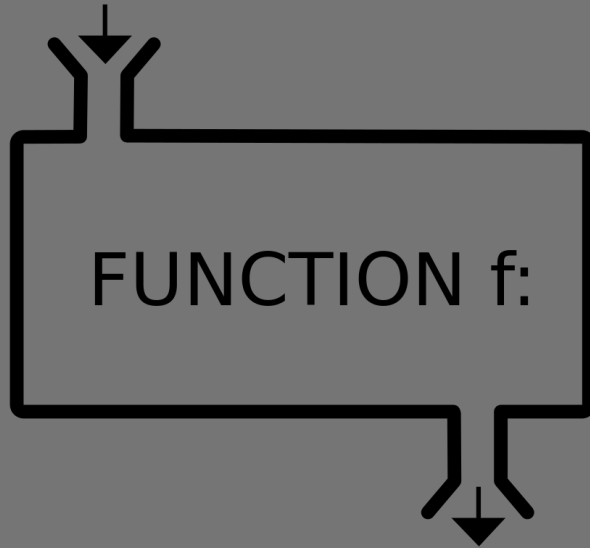


Functions

```
def sound(volume):  
    if volume < 20:  
        print("It's kinda quiet.")  
    elif 20 <= volume < 40:  
        print("It's nice for background music")  
    else:  
        print("My ears are hurting! :(")
```

Create whole world!

INPUT x



OUTPUT $f(x)$

Lists & Loops

```
corb = ["apple", "strawberry", "kiwi", "grape"]
```

```
for fruit in corb:  
    print(fruit)
```

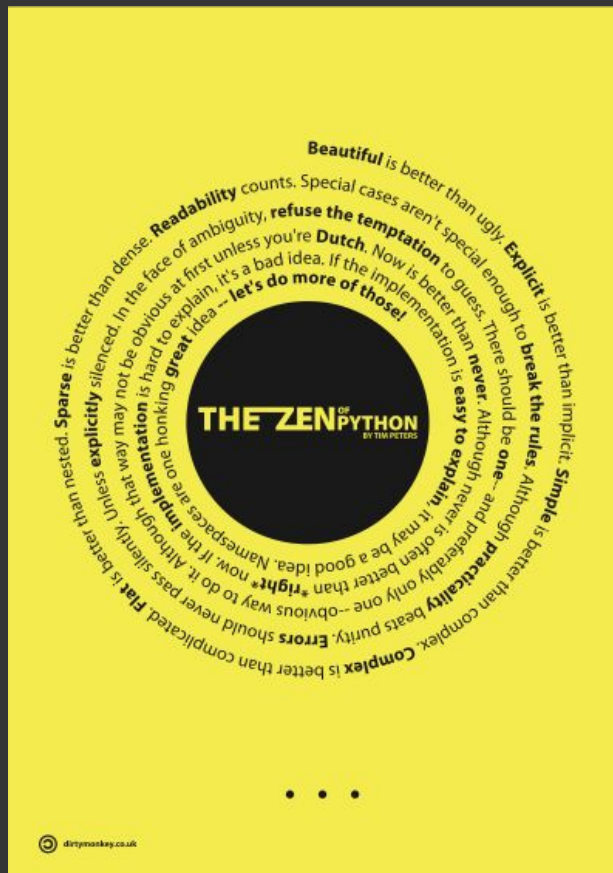
**Algorithmic
thinking!!!**

Well done!



Libraries

import this



Build your own text adventure.

Part 2

—

Additional task 3:

Create a function
to avoid to repeat
yourself

Push your files to Github

1. Open a new window in the shell and move (with `cd foldername`) to the directory

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```
git status
```

```
git add .
```

```
git commit -m "my python adventure"
```

```
git push
```

3. Check if you find your files on github.com
-

**You did
it! Yay!!!**



What's next?

Learning materials

Learn

PYTHON SYNTAX

Variables

Creating web apps, games, and search engines all involve storing and working with different types of data. They do so using **variables**. A **variable** stores a piece of data, and gives it a specific name.

For example:

```
spam = 5
```

The variable `spam` now stores the number `5`.

☒ Instructions

1. Set the variable `my_variable` equal to the value `10`.

Click the Run button to run your code.

? Stuck? Get a hint

? Report a Bug

script.py

```
1 # Write your code below!  
2 my_variable = 10
```

Run





repl.it is a cloud coding environment for PHP

join a community of

engineers, teachers, and students



Search for a language, e.g. c++

Rust

QBasic

Python

CoffeeScript

[browse all languages](#)

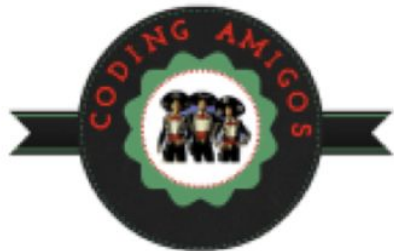
Be a Part of Community!

That makes learning much more fun!

OpenTechSchool Berlin

django
girls

Rails Girls 
Summer of Code

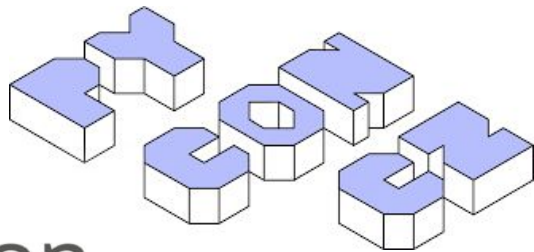


Financial Aid as Woman

You get paid for travelling to conferences: LGBT, women ...

pyladies

{codemotion}



**DJANGO
CON
EUROPE
2017**



europython
9-16 JULY 2017 Rimini

Happy coding!!!

Thanks to: PyLadies, SoundCloud
and all of our great coaches!!!
