

Programming in Python for Beginners

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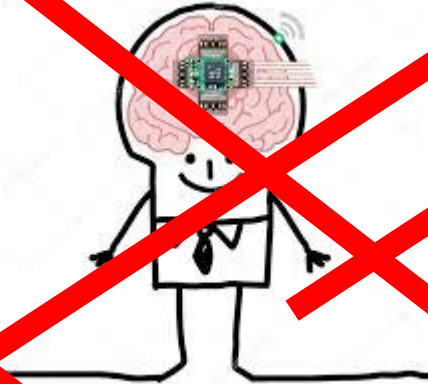
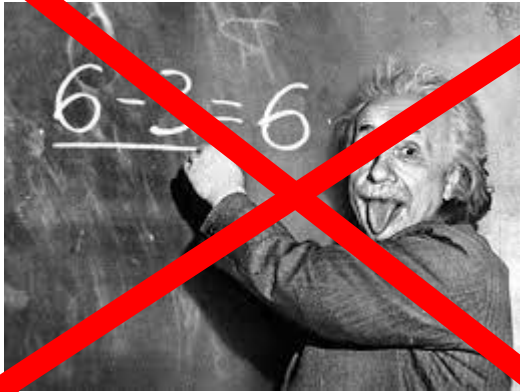
Plan for the day

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

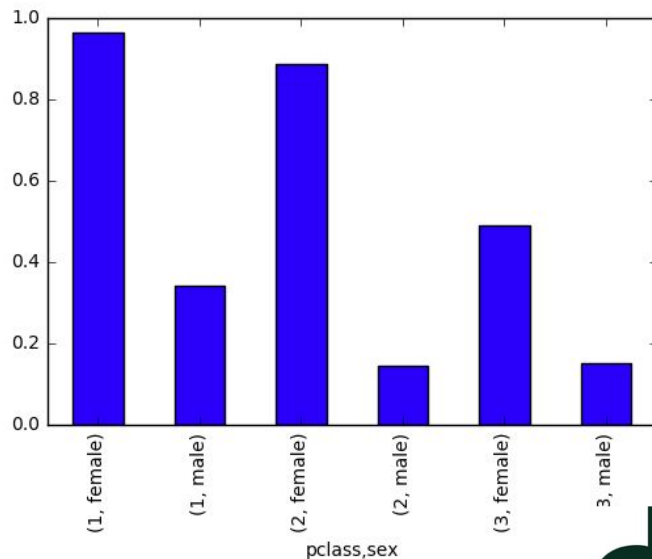
Lunch!

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

Prerequisites



What is Python Good for



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!

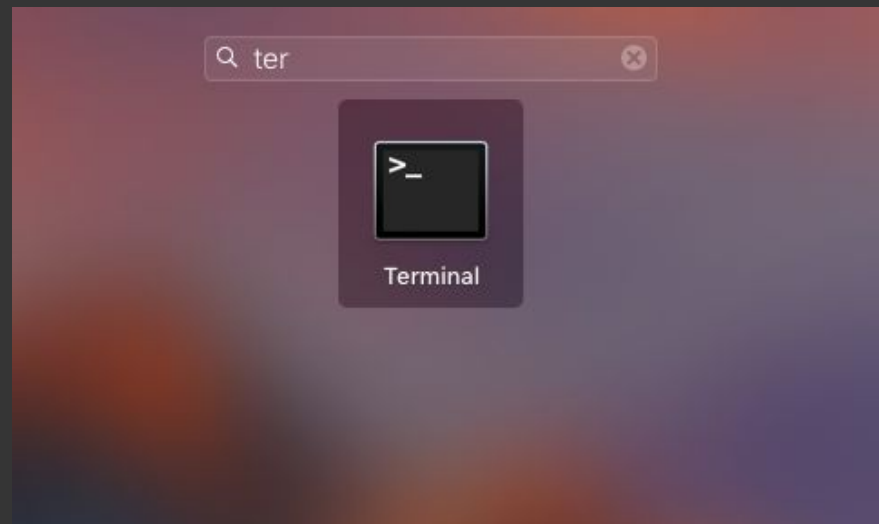
It is ok not to understand!

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

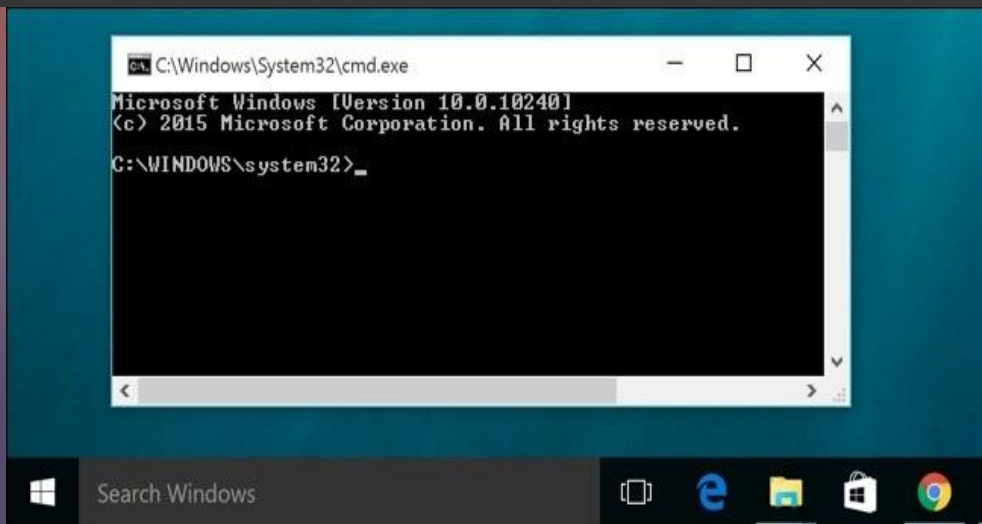
**Let's write some
code!**

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! :(")
```

%s >> explain

x

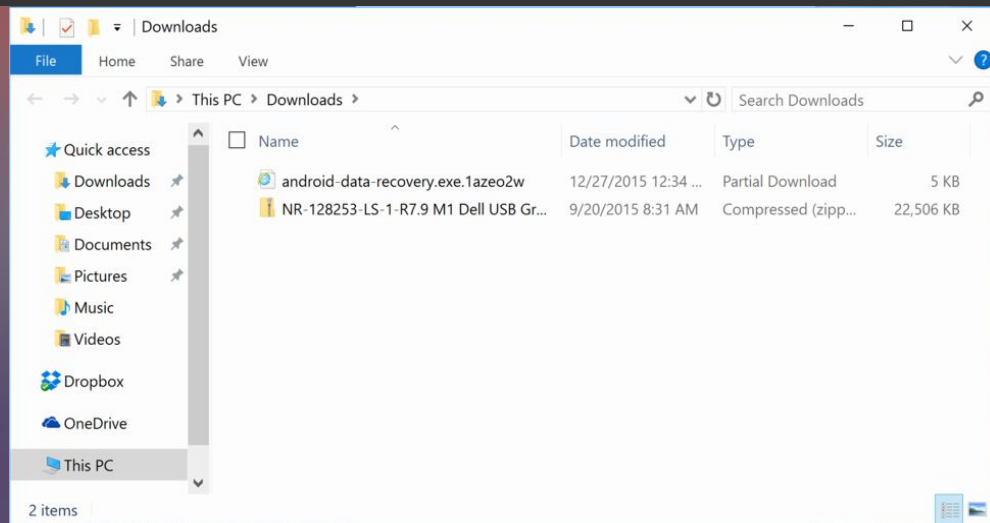
Let's use code editor!

Open Sublime Text

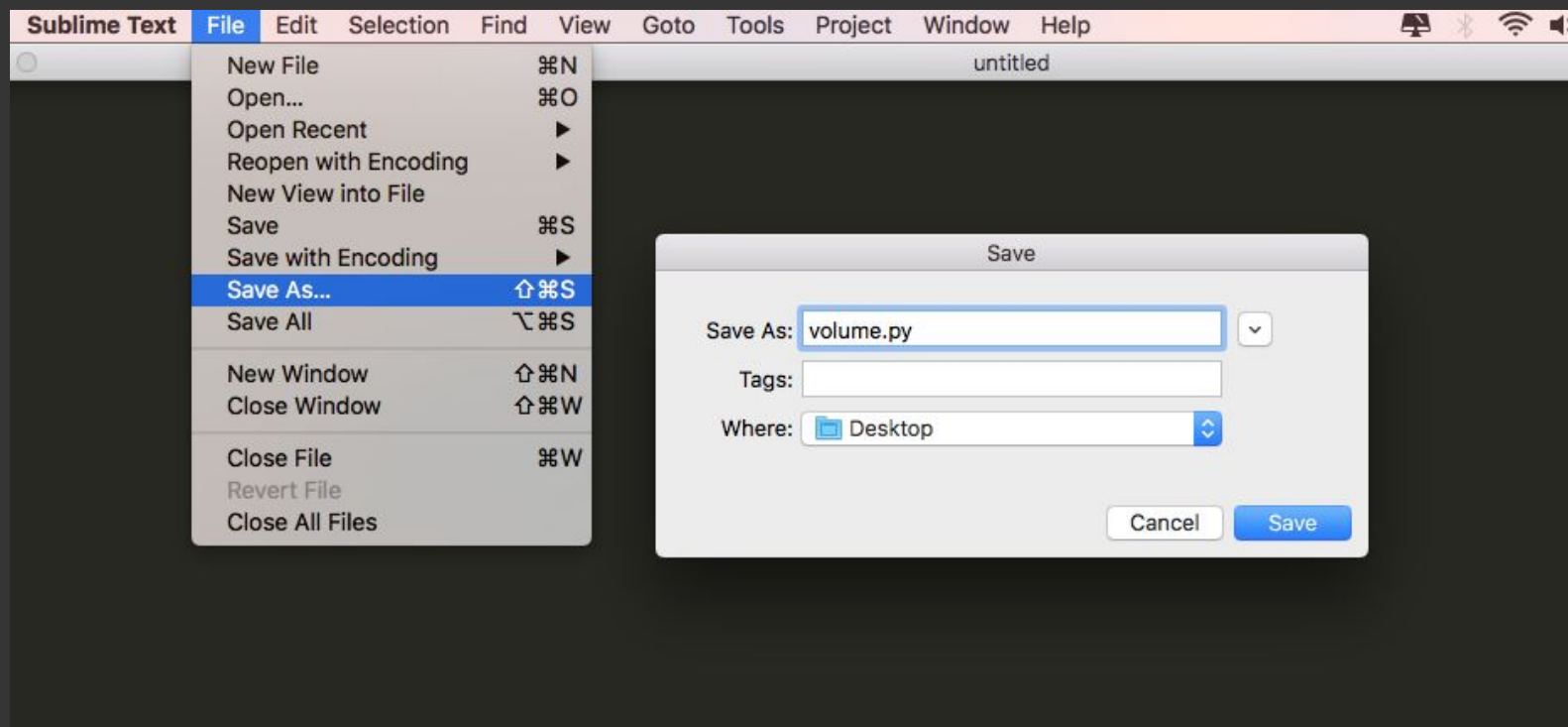
Mac



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!!

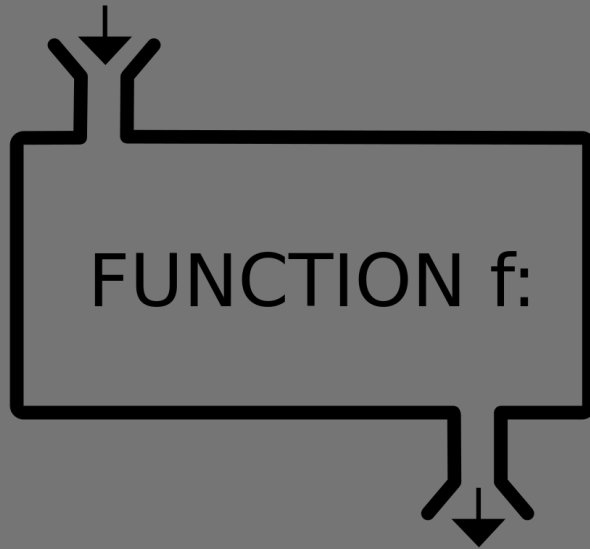


Functions

```
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)
```

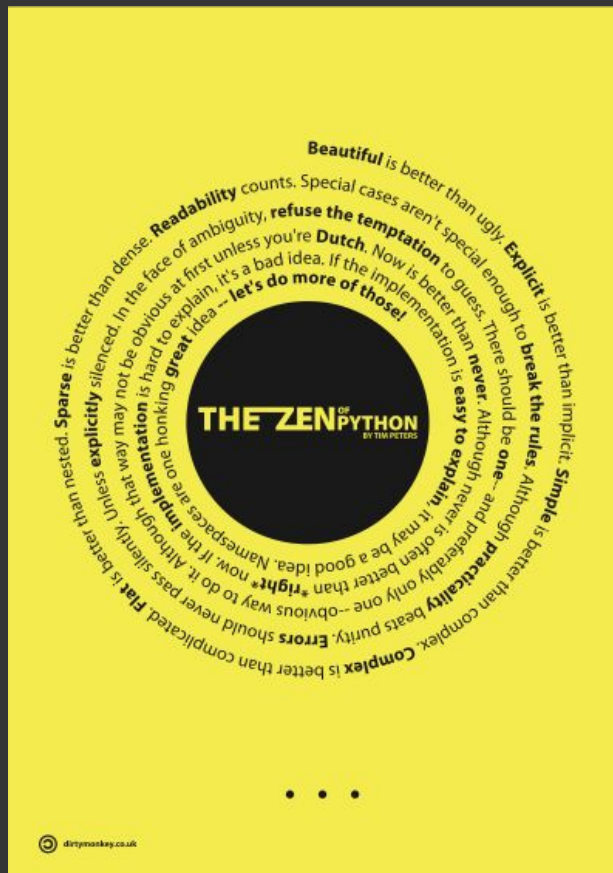
**Algorithmic
thinking!!!**

Well done!



Libraries

import this



Build your own text adventure.

Part 2

—

Additional task 3:

Give your player math tasks and check if her answer is right.

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
-

**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



Rust

QBasic

Python

CoffeeScript

[browse all languages](#)

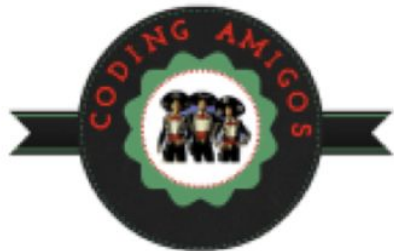
Be a Part of Community!

That makes learning much more fun!

OpenTechSchool Berlin

django
girls

Rails Girls 
Summer of Code

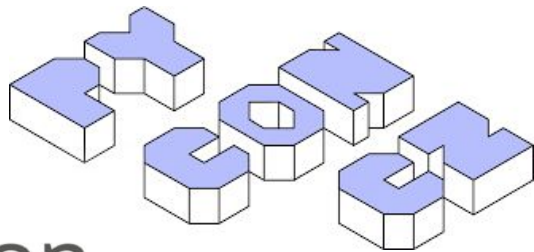


Financial Aid as Woman

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!!!
