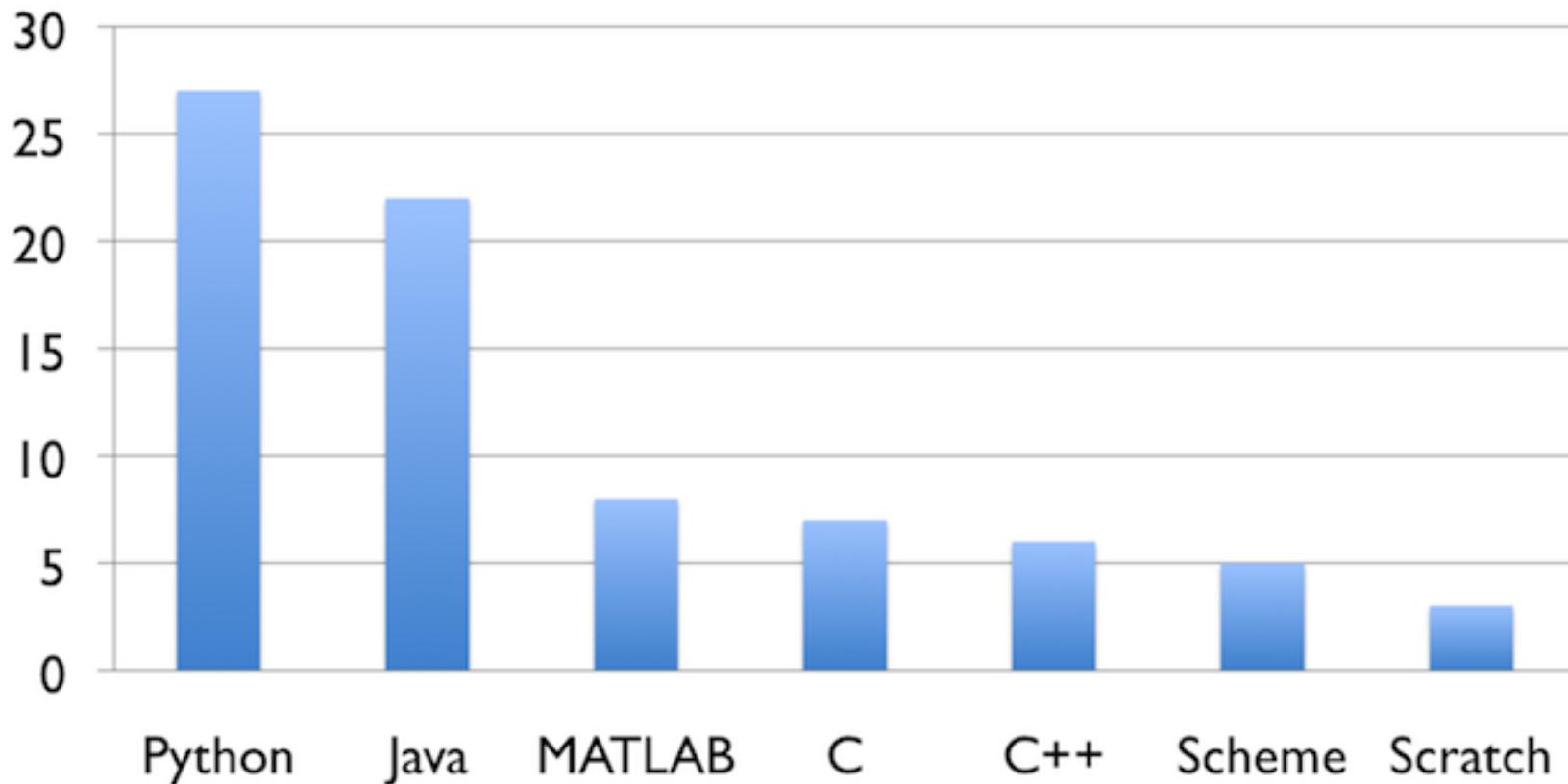


A baby is sitting on a wooden floor, wearing a white knitted beanie, black-rimmed glasses, and a black zip-up hoodie. They are wearing blue jeans and brown shoes with red soles. The baby is holding a silver smartphone and appears to be listening to music through white headphones. The background is a light-colored brick wall.

Python, the next
Brazilian generation

Why Python?

Number of top 39 U.S. computer science departments
that use each language to teach introductory courses



Analysis done by Philip Guo (www.pgbvine.net) in July 2014, last updated 2014-07-29

<http://cacm.acm.org/blogs/blog-cacm/176450-python-is-now-the-most-popular-introductory-teaching-language-at-top-us-universities/fulltext>

Why Python?

"Results show that many aspects of traditional C-style syntax, while it has influenced a generation of programmers, exhibits problems in terms of usability for novices".

"Perl and Java did not accuracy rates significantly higher than a language with randomly generated keywords"

[Andreas Stefik and Susanna Siebert: "An Empirical Investigation into Programming Language Syntax."](#) ACM Transactions on Computing Education, 13(4), Nov. 2013.



The most common fault in computer classes is to emphasize the rules of specific programming languages, instead of to emphasize the algorithms that are being expressed in those languages. D. Knuth interview at People of ACM, June, 2014.

“We want our community to be more diverse: whoever you are, and whatever our background, we welcome you”

<http://www.python.org/psf/diversity/>

We Love Python



Goal: 20% women 2015

Fact: 1/3 of PyConUS 2014 **and** 2015 speaker's!

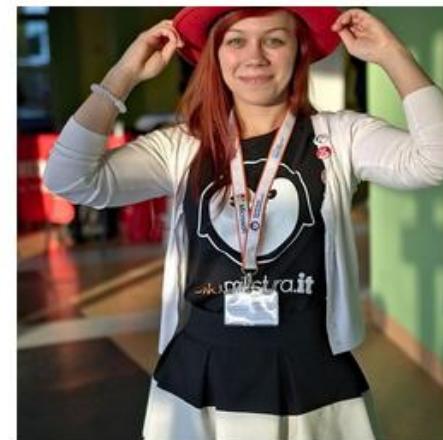
We Love Python



*Py*thon
is for Girls!

<http://pyladies.com>

<http://djangogirls.org>



YOU!

A large red oval surrounds the word "YOU!" in bold red letters.

Each week on our blog we try to introduce two badass ladies who use Python or Django to highlight their work.
What about you?

<http://djangogirls.org/story/>

We Love Python



Goal: 25% non American 2015





A good sword just does not make a good
samurai, not just use Python



instagram: @shallwe_ig

Python for Zombies

Summary

in 18 months
3 folks + zero budget =
30.000 enrollments

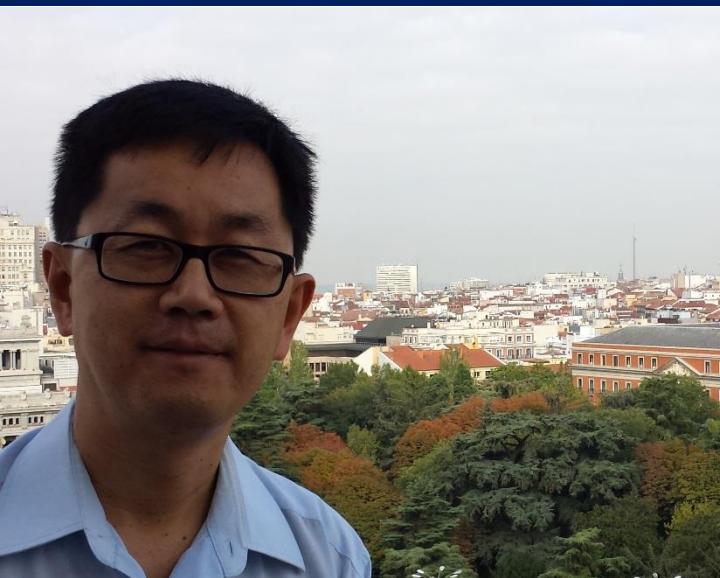
of comparison: one university professor reaches 3000 students throughout his career

Summary

Some girls that are former students have even created the first PyLadies chapters in Brazil.



Last year: 40 talks and workshops in 9 countries





I love teaching
CS Professor at FATEC

<https://about.me/fmasanori>

<http://pycursos.com/python-para-zumbis/>

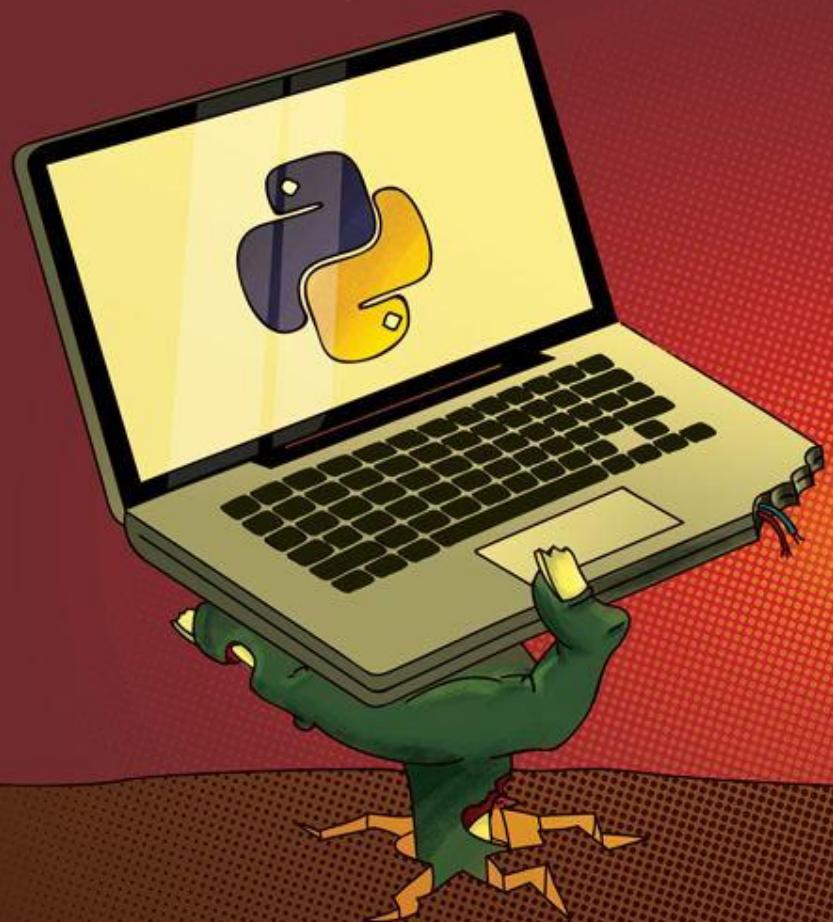


Goal

Teaching programming for everybody, for free, in portuguese (only 5% of Brazilian people are fluent in English¹)



First portuguese programming MOOC



PYTHON PARA ZUMBIS

<http://pycursos.com/python-para-zumbis/>

MOOC Menu



Pesquisar



Painel



Fernando



Python Para Zumbis - Turma Python Para Zumbis

GERENCIAR TURMA

Começando com o básico

Apresentação e Motivação

TWP000 Apresentação e Motivação

Slides Apresentação e Motivação

Hello World Interativo

TWP010 Hello World Interativo

Declarando nossas primeiras variáveis

TWP020 Variáveis e Modo Edição

Operadores Relacionais e Lógicos

Início

Vídeo Aulas/Materiais

Agenda

Membros

Fórum e Discussões

Exercícios Online

Trabalhos e Projetos

Pesquisa de Safistação

Python Tutor

Console Python 2.7

Wiki

FAQ

MOOC Videos

Python Para Zumbis - Turma II - Gratuita

GERENCIAR TURMA

WP000 Apresentação e Motivação Python para Zumbis



< i



0:00 / 16:10

YouTube

VCÊ ESTÁ ASSISTINDO: 1.1 - TWP000 Apresentação e Motivação

sta aula irei apresentar o nosso curso Python Para Zumbis e motivar os alunos sobre o que eles verão até o final
ste.

PRÓXIMO VÍDEO

1.1 - TWP100
CONDIÇÕES

MOOC Forum



Pesquisar



Painel



Fernando



525 Questões

GERENCIAR TURMA

CRIAR TÓPICO

Pesquisar

Ordenado por

- Últimas atualizadas
- Recentes
- Mais Votos
- Mais Vistas
- Sem Resposta

Tags

[links](#) [programar](#)

[localhost](#) [twitter](#)

[web service](#) [divisão](#)

[lista iv](#) [crescimento anual](#)

[intercalados](#) [substituição](#)

[questão6](#) [exercicio1](#) [versões](#)

[exercicio1](#)

[python 2.7](#) [python 3](#) [urllib2](#)

Pequenos Zumbis Presentes?

Olá, meu nome é Bruno Ponciano, tenho 14 anos, do Projeto Decolar (desenvolvimento do talento), em São José dos Campos.... Queria saber se tem mais pessoas, crianças ou adolescentes, da minha idade, para nos conhecermos, e talvez até, aumentar nossa animação pelo curso!

29

respostas

618

visualizações

69

votos

04/09/2013 às 18:48 por Bruno Ponciano

[Dica] Qual editor de código que você usa?

Boa discussão aqui, Qual editor de código que vocês usam ? Eu uso o MacVIM com suporte ao Python. Mas existem hoje várias opções como o IDLE (excelente para quem está começando), WingIDE, Sublime, PyDev (pluggin pro eclipse) e PyCharm. Mvim <http://sontek.net/blog/detail/turning-vim-into-a-modern-python-ide> Sublime <http://dbader.org/blog/setting-up-sublime-text-for-python-development> WingIDE <http://www.divms.uiowa.edu/help/windows/wing/> PyCharm <http://www.jetbrains.com/pycharm/> PyDev [PyDev](http://www.vogella.com/articles/Python/article.html) <http://www.vogella.com/articles/Python/article.html>

31

respostas

541

visualizações

10

votos

[python](#) [desenvolvimento](#) [dica](#) [ide](#)

04/09/2013 às 11:47 por Marcel Caraciolo

Início

Vídeo Aulas/Materiais

Agenda

Membros

Fórum e Discussões

Exercícios Online

Trabalhos e Projetos

Pesquisa de Safistação

Python Tutor

Console Python 2.7

Wiki

FAQ

Answers

29 Respostas

Mais Recentes Mais antigas Mais votadas



Fernando Ashikaga (Instrutor)

04/09/2013 às 18:51



9

votos

Boa Bruno! O Decolar é um CEDET (Centro de Desenvolvimento do Talento) iniciativa da prefeitura de São José para crianças do ensino fundamental público. São e serão bem vindos. Sabia que tem alguns códigos que vou ensinar que foram criados por alunos do Decolar?



marcar como resposta certa



Foi útil



Não foi útil

comente

Right answer

Up vote

Down vote

comment

Differences from other MOOCs?



Community initiative



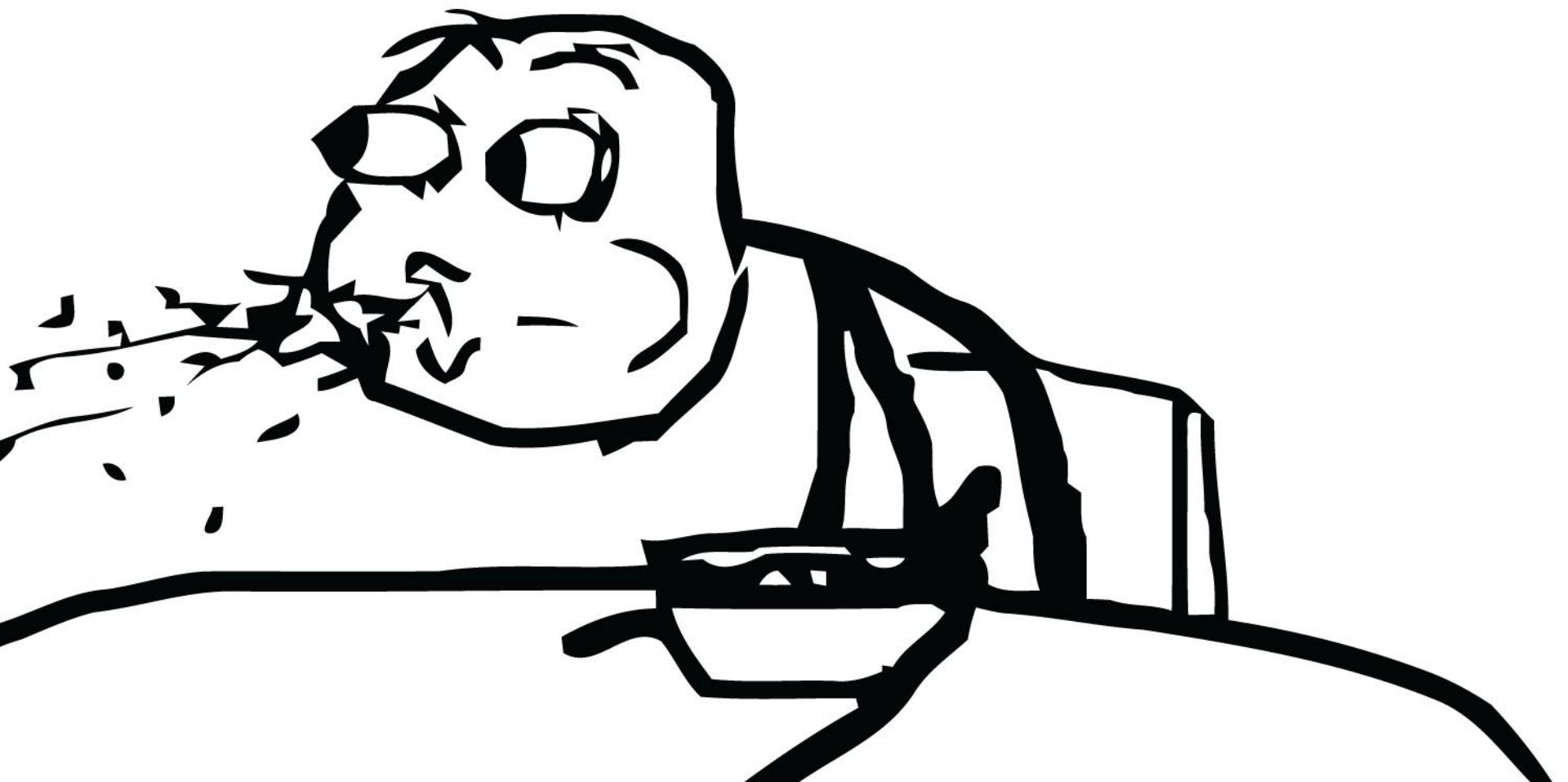
Not of my university

Cronology

- November 2012: “We need a MOOC to teach Python” Marcel Caraciolo (president of Python Brazil Association)
- My answer: “Cool, it will be ready in two years”
- July 2013: “Next month we will have the first MOOC for teaching programming in Portuguese. This is the website for pre-registration...”.
Marcel's announcement at Campus Party Brazil.

My first reaction

Because I had nothing ready



But we did it

One month to:

1. Design the entire course
2. Get the first week videos recorded

PS: We took advantage of a platform that already existed



Nexts weeks

I recorded the lessons at:

1. Fast food restaurants, airports, FATEC classrooms
2. Travels to conferences

PS: theBoom Noise Canceling Headset is really useful

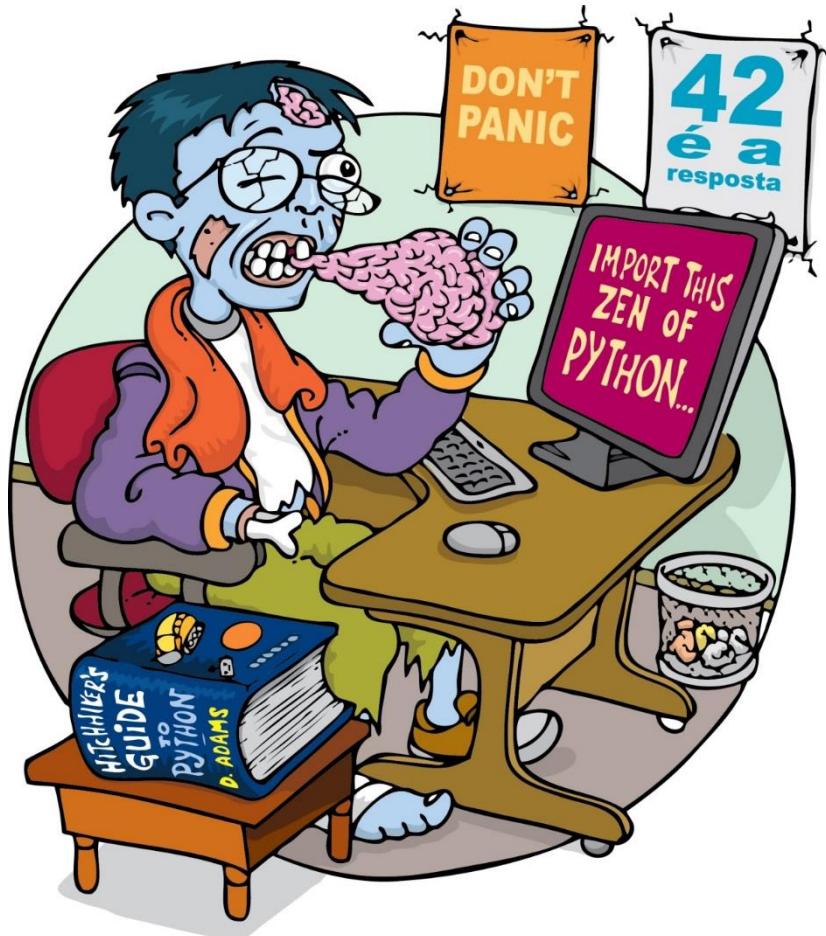


Python 3

- Convenient to use accents in foreign languages
 - Ex.: opção = 42
- More natural division
 - $1 / 2$ results 0.5



Small 4min videos without quizzes



A huge compilation of exercises



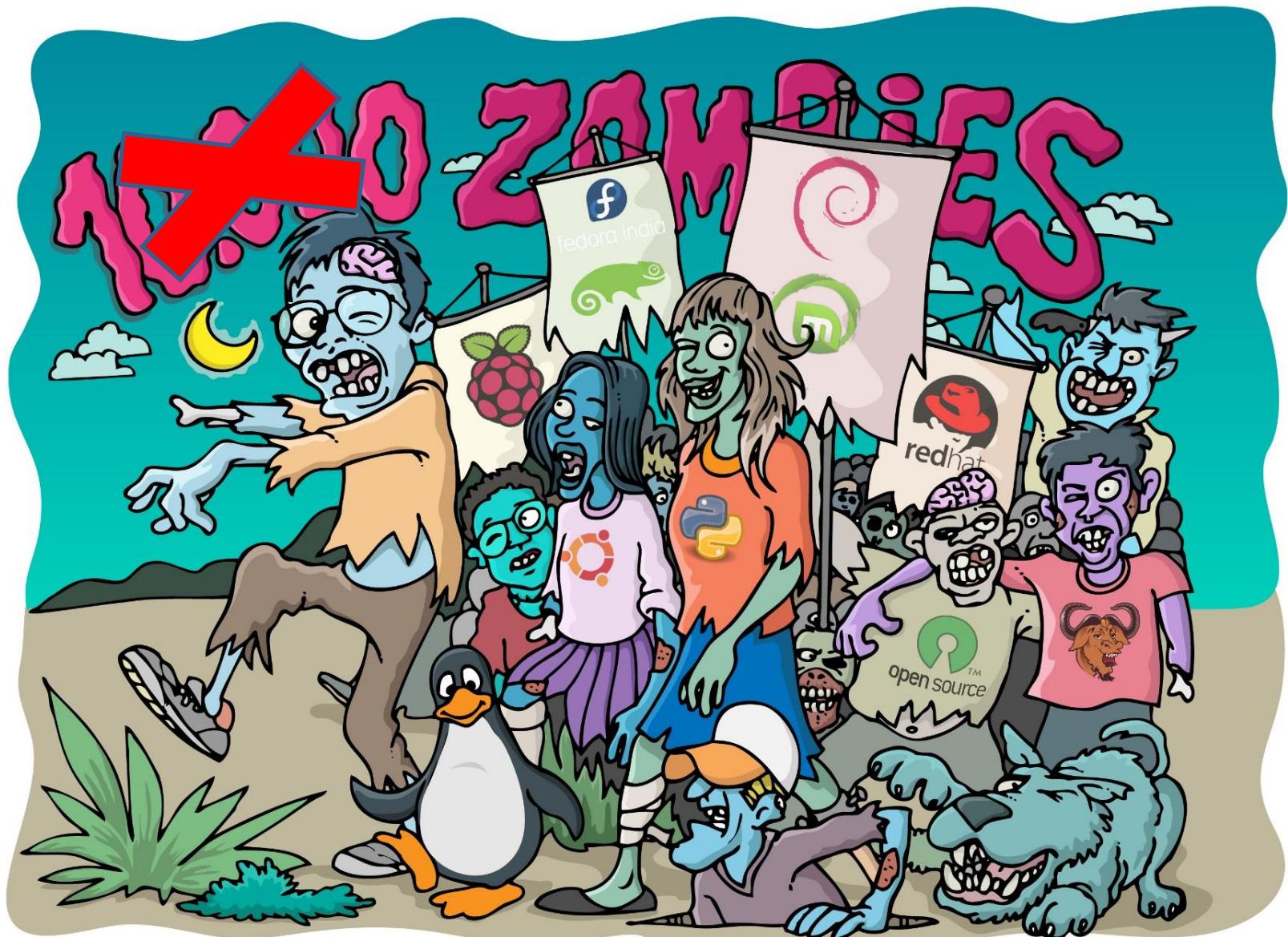
- CodingBat
- Google Python Class
- Google Developer Day
- Cracking Code Interview
- Facebook Hackaton
- Edx MIT
- IME – USP

12 years old girls code



To promote diversity

30.000 enrolled in one year and half



Some availability problems



overcomed with good humor

TWD Portugal Fanpage

https://www.facebook.com/The.Walking.Dead.Portugal

The Walking Dead (Portugal)

The Walking Dead (Portugal) Timeline Recent Liked

The Walking Dead (Portugal) shared a link.
7 hours ago

Querem aprender Programação - e grátis!?

"Python para Zumbis" é o primeiro curso gratuito massivo, em português, para aprender a programar, destinado a zombies, upps, quer dizer iniciantes! Aprenda a programar de uma maneira profissional e divertida, e ainda com um professor fã de TWD.

Informações em: <http://pycursos.com/python-para-zumbis/>

Python para Zumbis com Fernando Masanori
pycursos.com
Aprenda programação com Python em seu ritmo num curso on-line grátis!

CLIQUE E VEJA O VÍDEO DE APRESENTAÇÃO

Unlike · Comment · Share 2

You, Hugo Arcanjo, Patrick Mazulo, Jujuba Carter and 25 others like this.

Write a comment...

F.O.
APS Portugal
#TWD

THE WALKING PYTHON
<http://pycursos.com/python-para-zumbis/>



Recent 2013 2012 2011 Books

Sponsoring Free For ALM Re landing.r

"Rally So continue in Agile / Forrester Mário Guhat (Off)

Some data

- Only three people:
 - Fernando Masanori (videos)
 - Gileno Filho (Django Dev)
 - Marcel Caraciolo (Data Scientist)
- Zero budget: no grants, no investments received, no crowdfunding
- With the collaboration of the whole Brazilian Python Community
- 30.000 enrollments in one year and half of activity
- Course completion: 8.91%

Former students: PyLadies Brazil



First PyLadies Event (100+) 80 women



RuPy Natal (300+) 1/3 women



Increase on diversity in other conferences

Code Girl 2 Natal (700+) 60% women



Increase on diversity in other conferences

Use case: University of São Paulo



A thousand engineers are using the videos

Former student: Ysani Kalapalo



HARVARD
UNIVERSITY

Indigenous Brazilian dream
attend Computer Science at
Harvard.

**"I want to be the first Brazilian
indigenous studying at Harvard,
and this is my dream."**

Ysani Kalapalo

-Native of the Upper Xingu, Amazon, Brazil-

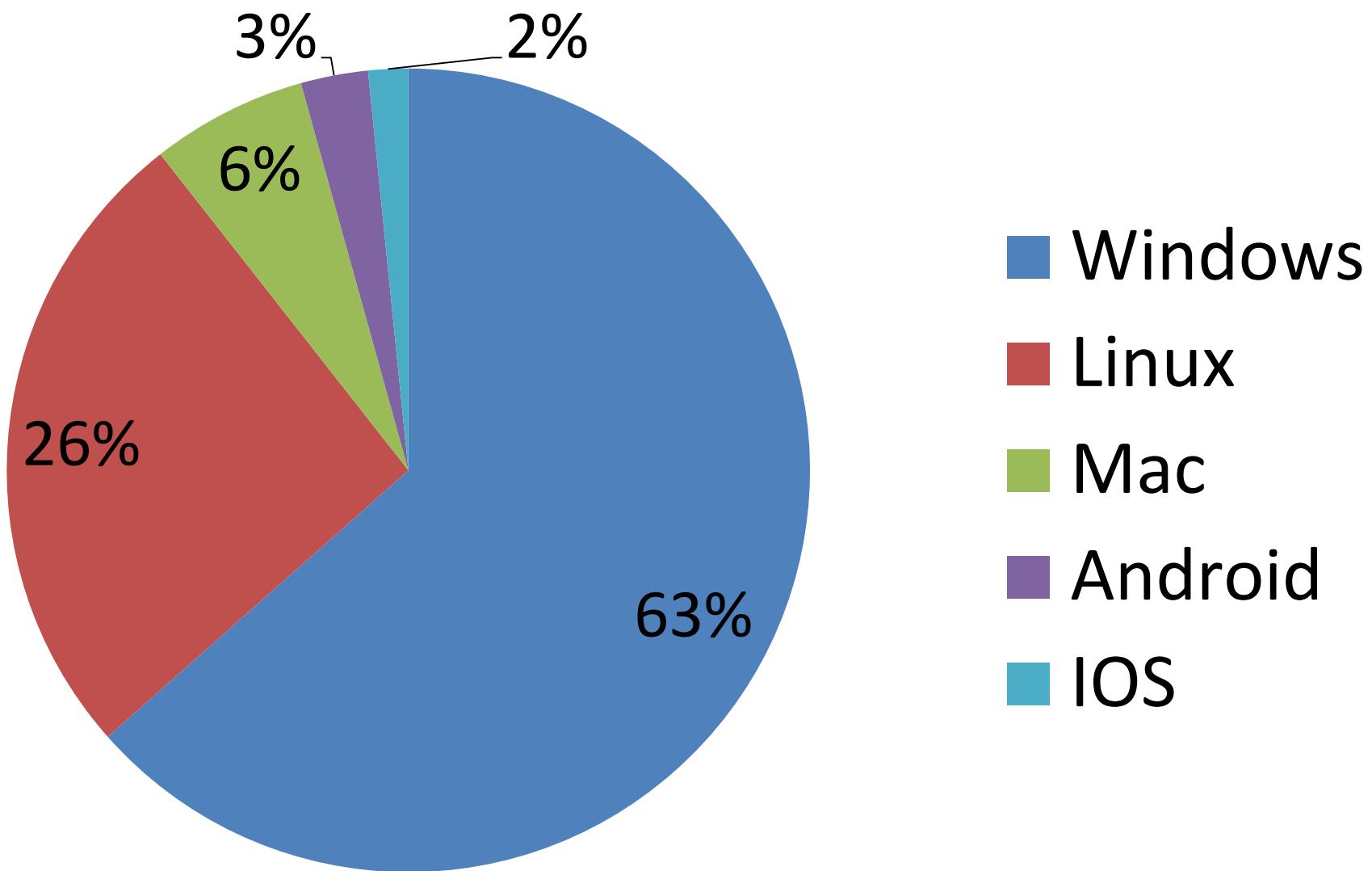
Now first Brazilian indigenous at Harvard

Former student: Carlos Glória

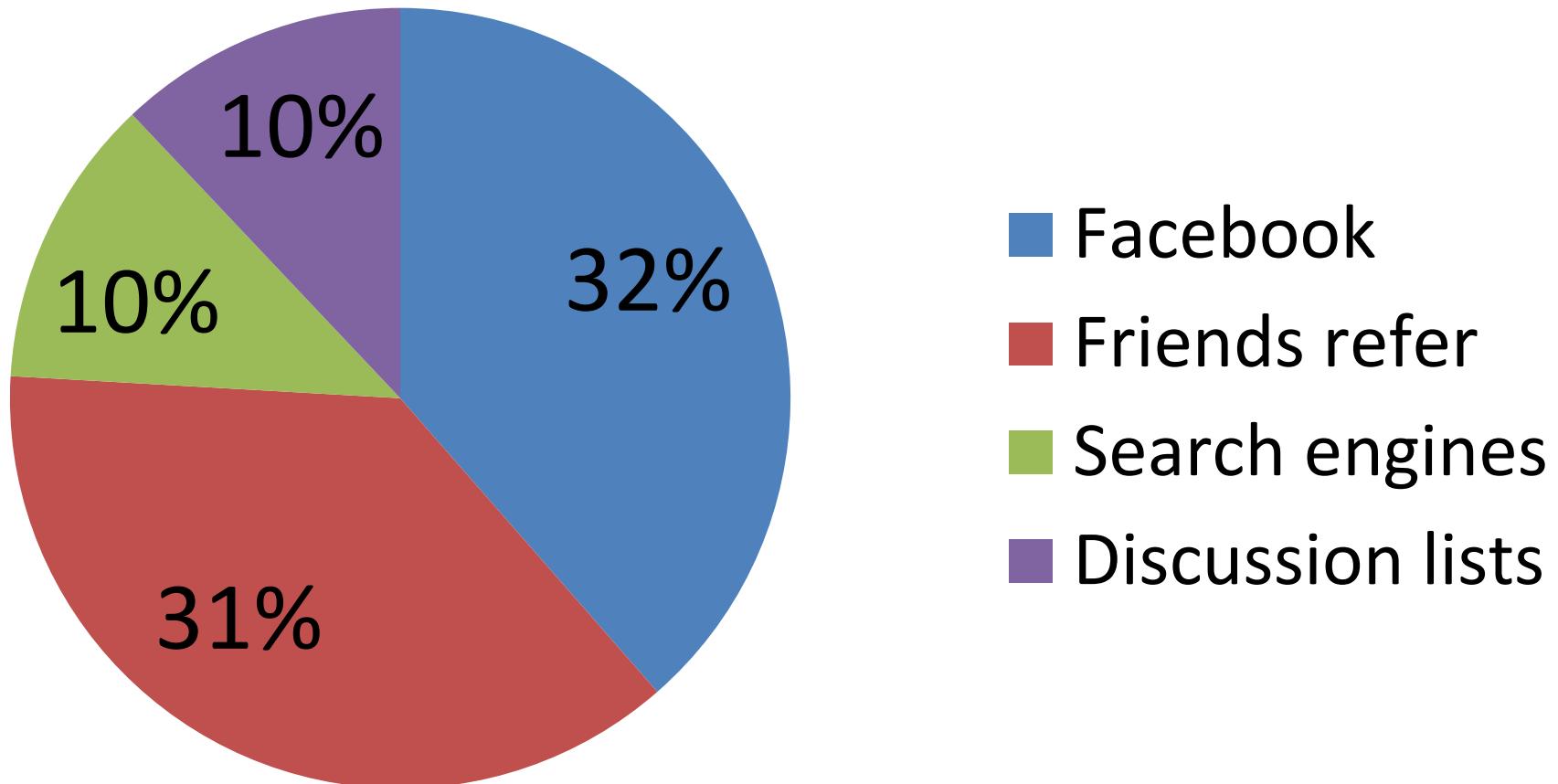


www.youtube.com/watch?v=BrHHsPaE_WA

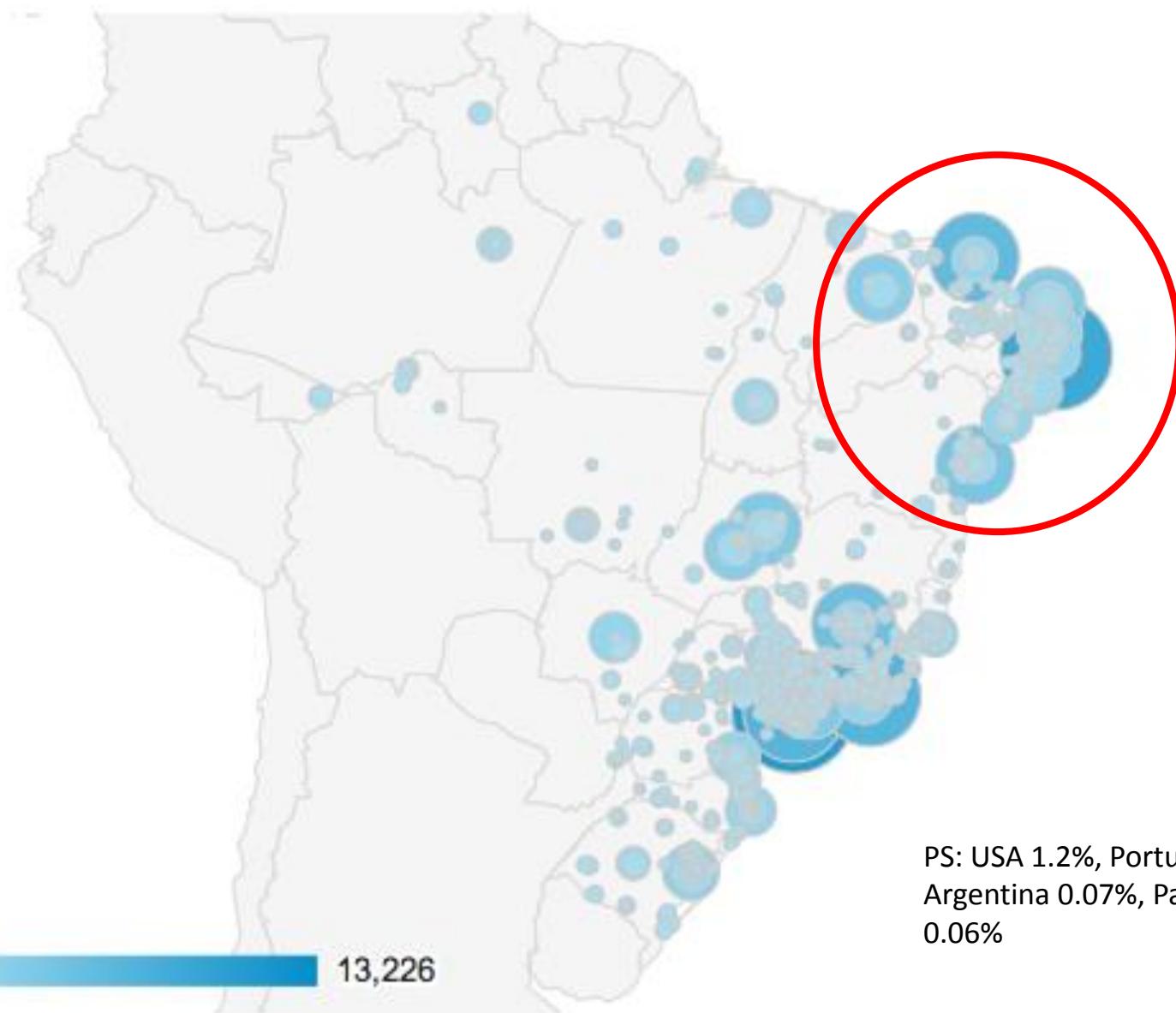
Zombie's Operating System



How did you find the course



Where are the zombies?



Massive Coding Dojo

Nitrous.IO (Collab Mode) + Hangout On Air with Live Q&A

Do you want Google Chrome to save your password?

Never for this site Save password

BETA - Read Me Invites Boxes Public Keys marcelcaraciolo

Collab Mode

```
5 Neste problema, você deverá exibir uma lista de 1 a 100,
6 um em cada linha, com as seguintes exceções:
7 Números divisíveis por 3 deve aparecer como 'Fizz' ao invés do número;
8 Números divisíveis por 5 devem aparecer como 'Buzz' ao invés do número;
9 Números divisíveis por 3 e 5 devem aparecer como 'FizzBuzz' ao invés do número'.
10 """
11 def teste(obtido, esperado):
12     if obtido == esperado:
13         prefixo = ' Passou!'
14     else:
15         prefixo = ' Erro...'
16     print ('%s obtido: %s esperado: %s' % (prefixo, repr(obtido), repr(esperado)))
17
18 def fizzbuzz(n):
19     return
20
21
22 def main():
23     teste(fizzbuzz(1), 1)
24     teste(fizzbuzz(2), 2)
```



Talk is cheap.
Show me the code.

Linus Torvalds



K-12 CEDET Decolar

CEDET Decolar Game

```
import random
girls = '''Júlia Sophia Isabella Manuela Giovanna Alice Laura
    Luiza Beatriz Mariana Yasmin Gabriela Rafaela Isabelle Lara
    Letícia Valentina Nicole Sarah Vitória Isadora Lívia Helena
    Lorena Clara Larissa Emanuelly Heloisa Marina Melissa Gabrielly
    Eduarda Rebeca Amanda Aélia Bianca Lavinia Fernanda Ester
    Carolina Emily Cecília Pietra Milena Marcela Laís Natália
    Maria Bruna Camila Luana Catarina Olivia Agatha Mirella
    Sophie Stella Stefany Isabel Kamilly Elisa Luna Eloá Joana
    Mariane Bárbara Juliana Rayssa Alana Caroline Brenda Evelyn
    Débora Raquel Maitê Ana Nina Hadassa Antonella Jennifer
    Betina Mariah Sabrina'''.split()
girls.sort()
print (' '.join(girls))
secret = random.choice(girls)
guess = ''
while guess != secret:
    guess = input('Guess: ')
    if guess == secret:
        print ('You win!')
    elif guess > secret:
        print ('High')
    else:
        print ('Low')
print ('End of the game!')
```

Made by a 12 year old girl

<https://gist.github.com/10198873>

Cripto CEDET Decolar

```
def hide(msg):
    s = ''
    for c in msg: s += chr(ord(c) + 30000)
    return s

def show(msg):
    s = ''
    for c in msg: s += chr(ord(c) - 30000)
    return s

>>>
>>> hide('Made by another 12 year old girl')
'哩疑疔疮富广瘁富疑疔疮疔疮疚富咳畢富瘁疔疮疔疮疚富疗疔疚疔'
>>> show('哩疑疔疮富广瘁富疑疔疮疔疮疚富咳畢富瘁疔疮疔疮疚富疗疔疚疔')
'Made by another 12 year old girl'
```

Made by another 12 year old girl

42 OOP

```
class int42(int):
    def __init__(self, n):
        int.__init__(n)

    def __add__(a, b):
        return 42

    def __str__(n):
        return '42'

>>> a = int42(13)
>>> b = int42(7)
>>> a + b
42
>>> a
13
>>> b
7
>>> print (a)
42
>>> print (b)
42
```

42 is stronger than the beast

```
from functools import wraps
def hitchhiker(func):
    @wraps(func)
    def wrapper(*args, **kwargs): return 42
    return wrapper

@hitchhiker
def fat(n):
    if n < 2: return 1
    return n * fat(n-1)

@hitchhiker
def fib(n):
    if n < 2: return 1
    return fib(n-1) + fib(n-2)

print ('42 is stronger than the apocalypse beast')
print ('Fat(666)=%d' %fat(666))
print ('Fib(666)=%d' %fib(666))
```

<https://gist.github.com/7034743>

Facebook Hackaton 2013 (Selective Test)

```
def hack1(n, k):
    def f(s):
        return s.count('1')
    binaries = []
    for x in range(2**n):
        binaries.append(bin(x))
    binaries.sort(key=f, reverse = True)
    return binaries[k - 1]

def hack(n, k):
    return sorted([bin(x) for x in range(2**n)],
                 key=lambda s: s.count('1'),
                 reverse = True)[k-1]
```

Selection Test 2013 Facebook Hackaton Given two positive integers n and k, generate all binary integer between 0 and $2^{**n}-1$, inclusive. These binaries will be drawn in descending order according to the number of existing 1s. If there is a tie choose the lowest numerical value. Return the k-th element from the selected list. Eg n = 3 and k = 5 ['0 b111', '0 b11', '0 B101', '0 b110', '0 b1', '0 b10', '0 b100', '0 b0'] fifth element '0 b1'

<https://gist.github.com/5620075>

Quicksort: “The beauty will save the code”

```
def quicksort(v):
    if len(v) <= 1:
        return v

    pivot = v[0]
    equals = [x for x in v if x == pivot]
    smaller = [x for x in v if x < pivot]
    higher = [x for x in v if x > pivot]
    return quicksort(smaller) + equals + quicksort(higher)

print(quicksort([5, 7, 9, 3, 4, 0, 2, 1, 6, 8]))
```

<https://gist.github.com/4673057>

Interface GUI

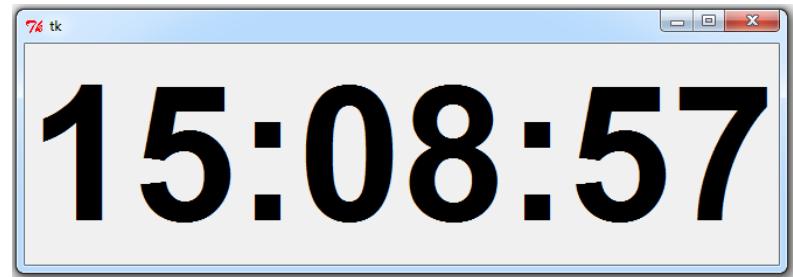
```
import tkinter
from time import strftime
#by Luciano Ramalho

clock = tkinter.Label()

clock.pack()
clock['font'] = 'Helvetica 120 bold'
clock['text'] = strftime('%H:%M:%S')

def tictac():
    agora = strftime('%H:%M:%S')
    if agora != clock['text']:
        clock['text'] = agora
    clock.after(100, tictac)

tictac()
clock.mainloop()
```



By Luciano Ramalho

<https://gist.github.com/4961824>

World Cup

```
import urllib.request
import json
resp = urllib.request.urlopen('http://worldcup.sfg.io/matches').read()
for jogo in json.loads(resp.decode('utf-8')):
    if jogo['status'] == 'completed':
        print (jogo['home_team']['country'], jogo['home_team']['goals'], 'x',
               jogo['away_team']['country'], jogo['away_team']['goals'])

.
.

Germany 2 x Algeria 1
Argentina 1 x Switzerland 0
Belgium 2 x USA 1
Brazil 2 x Colombia 1
France 0 x Germany 1
Netherlands 0 x Costa Rica 0
Argentina 1 x Belgium 0
Brazil 1 x Germany 7
Netherlands 0 x Argentina 0
Brazil 0 x Netherlands 3
Germany 1 x Argentina 0
>>>
https://gist.github.com/fmasanori/1288160dad16cc473a53
```

Hacking Facebook Friends Photos

<https://developers.facebook.com/tools/explorer>

Graph API Explorer Application: [?] Graph API Explorer Locale: [?] English (US) API Version: [?] v2.2

Access Token: CAACEdEose0C

Graph API FQL Query

GET → /v2.2/me?fields=id,name

Learn more about the Graph API system

Node: me

id
 name

Search for a field

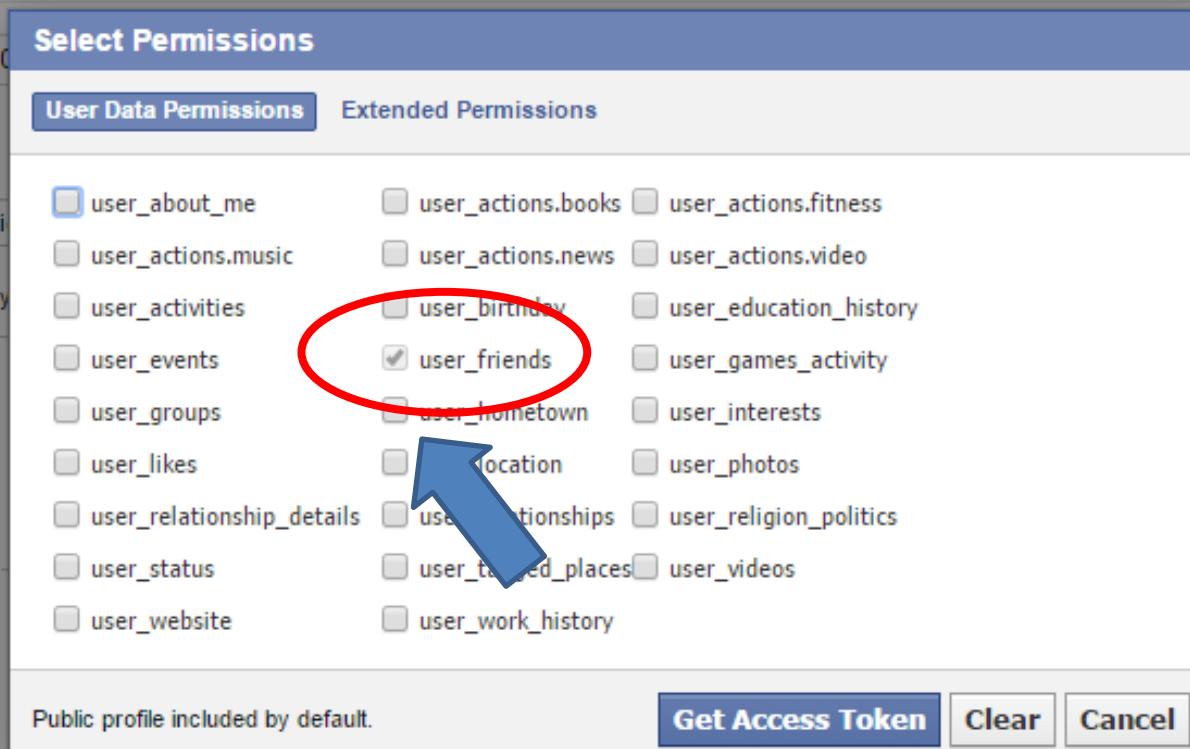
Select Permissions

User Data Permissions Extended Permissions

<input type="checkbox"/> user_about_me	<input type="checkbox"/> user_actions.books	<input type="checkbox"/> user_actions.fitness
<input type="checkbox"/> user_actions.music	<input type="checkbox"/> user_actions.news	<input type="checkbox"/> user_actions.video
<input type="checkbox"/> user_activities	<input type="checkbox"/> user_birthday	<input type="checkbox"/> user_education_history
<input type="checkbox"/> user_events	<input checked="" type="checkbox"/> user_friends	<input type="checkbox"/> user_games_activity
<input type="checkbox"/> user_groups	<input type="checkbox"/> user_hometown	<input type="checkbox"/> user_interests
<input type="checkbox"/> user_likes	<input type="checkbox"/> user_location	<input type="checkbox"/> user_photos
<input type="checkbox"/> user_relationship_details	<input type="checkbox"/> user_relationships	<input type="checkbox"/> user_religion_politics
<input type="checkbox"/> user_status	<input type="checkbox"/> user_toured_places	<input type="checkbox"/> user_videos
<input type="checkbox"/> user_website	<input type="checkbox"/> user_work_history	

Public profile included by default.

Get Access Token Clear Cancel



<https://developers.facebook.com/tools/explorer>

Hacking Facebook Friends Photos

<https://developers.facebook.com/tools/explorer>

facebook developers Search Facebook Developers Docs Tools Support News Apps Fernando | ▾

Graph API Explorer Application: [?] Graph API Explorer Locale: [?] English (US) ▾

Access Token: CAACEdEose0cBAFI0cBObkPZBL5nltrE6ZC8MpDRNvdY6575zOpoiSatbZABxNBM7XuHuibUWuZBCSdMtPMihTvgRm44RIdik|

Graph API FQL Query

GET

Learn more about the Graph API syntax.

Node: 1183621847

id
 name
+

```
{  
  "name": "Fernando Masanori Ashikaga",  
  "id": "1183621847"  
}
```

Hacking Facebook Friends Photos

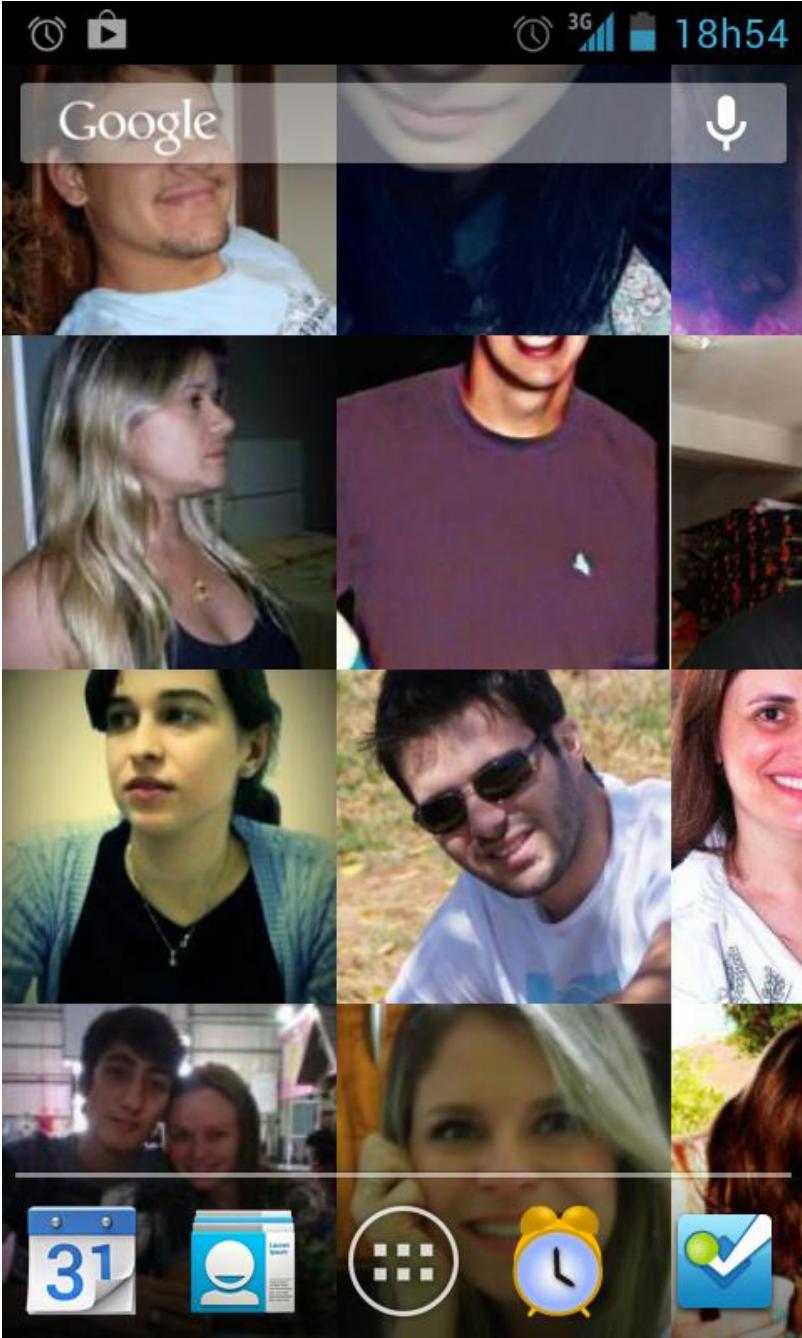
```
import urllib.request
import json

def save_image(friend):
    size = '/picture?width=200&height=200'
    url = 'https://graph.facebook.com/' + friend['id'] + size
    image = urllib.request.urlopen(url).read()
    f = open(friend['name'] + '.jpg', 'wb')
    f.write(image)
    f.close()
    print(friend['name'] + '.jpg impresso')
#get the token https://developers.facebook.com/tools/explorer
url = 'https://graph.facebook.com/me/friends?access_token=<token>'
resp = urllib.request.urlopen(url).read()
data = json.loads(resp.decode('utf-8'))

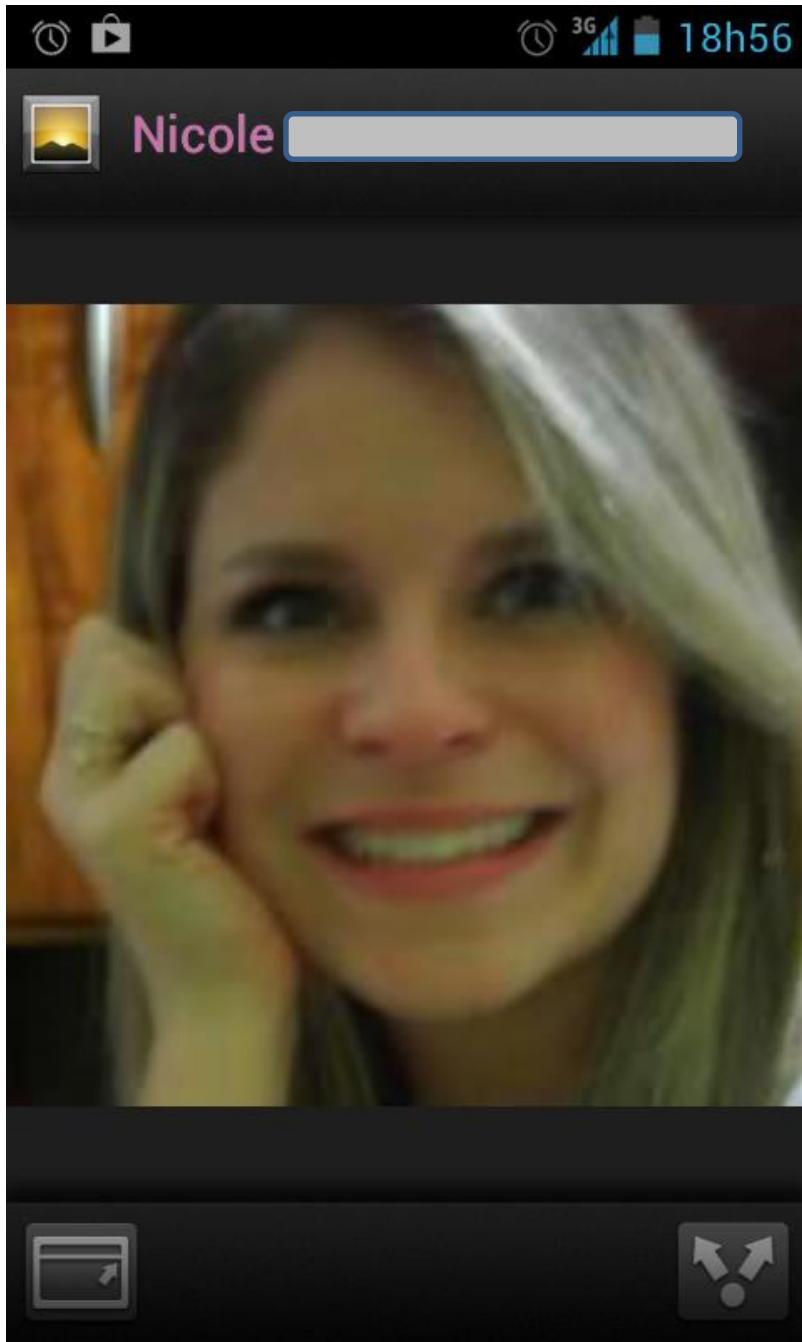
for friend in data['data']:
    save_image(friend)
```



<https://gist.github.com/4684752>



Android Wallpaper



Android Wallpaper

2014 World Cup Costs

```
import urllib.request
url = 'http://www.portaltransparencia.gov.br/copa2014/api/rest/empreendimento'
resp = urllib.request.urlopen(url).read().decode('utf-8')
total = 0
j = 0
while True:
    abre = '<valorTotalPrevisto>'
    fecha = '</valorTotalPrevisto>'
    j = resp.find(abre, j)
    if j == -1:
        break
    k = resp.find(fecha, j)
    print (resp[j+len(abre):k])
    total = total + float (resp[j+len(abre):k])
    j = k + len(fecha)
print ('R$ %.2f' %total)
R$ 27346140056.43
>>>
```

<https://gist.github.com/fmasanori/a428ef783211b0ffdee1>

How many schools there are in Brazil, operating without water, electricity and sewerage?

```
import urllib.request
import json
url = 'http://educacao.dadosabertosbr.com/api/escolas/buscaavancada?situacaoFuncionamento=1'
situação = '&energiaInexistente/on&aguaInexistente/on&esgotoInexistente/on'
resp = urllib.request.urlopen(url+situação).read()
resp = json.loads(resp.decode('utf-8'))
print ('Número de Escolas em funcionamento sem energia, água e esgoto:', resp[0])
for x in resp[1]:
    print (x['nome'], x['cod'])
    print (x['cidade'], x['estado'], x['regiao'])
    print ()
```

Número de Escolas em funcionamento sem energia, água e esgoto: 968
BAIRRO DOS MENDES E R M EF 41036026
CANDIDO DE ABREU PR Sul

CEF CAJAZEIRAS 21237808
SANTA HELENA MA Nordeste

E M E F AGUA AZUL 15008258
MONTE ALEGRE PA Norte

E M E F AGUA BOA 15534340
PLACAS PA Norte

E M E F AGUA PRETA 15590356
MOJU PA Norte

<https://gist.github.com/fmasanori/fc0e98c8c486be80d5a5>

Personal benefits

- One year == 40 talks (Python for Zombies MOOC related topics) and workshops
- Montevideo, Montreal, Florence, Berlin, London, Amsterdam, Madrid, Paris
- A lot of friends all over the world!



A lot of new friends...





Benefits for my university

- Visibility
- Flipped Classrooms: more time for Coding Dojos and exercises
- Second chance for students to review the lessons

Benefits for Python Community

- “Trojan Horse” to enter in many new places
- Material for tutorials in local user groups and also for professors to teach CS1 with Python
- Low cost example of how to spread the community: 3 folks that made an impact in 30.000 in one year and half
- We multiply the number of local Python Day events: Alagoas, Bahia, Minas Gerais, Goiás, Piauí, Mato Grosso, Pernambuco, Rio Grande do Norte, Sergipe...

Future

- Learning analytics
- Some A/B testing
- Distributed Leadership experiments
- Open edX: <http://code.edx.org/>

**MAKE
THINGS
HAPPEN!!**



Don't think too much
Just do it

Questions?

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Slides: bit.ly/python-for-zombies