

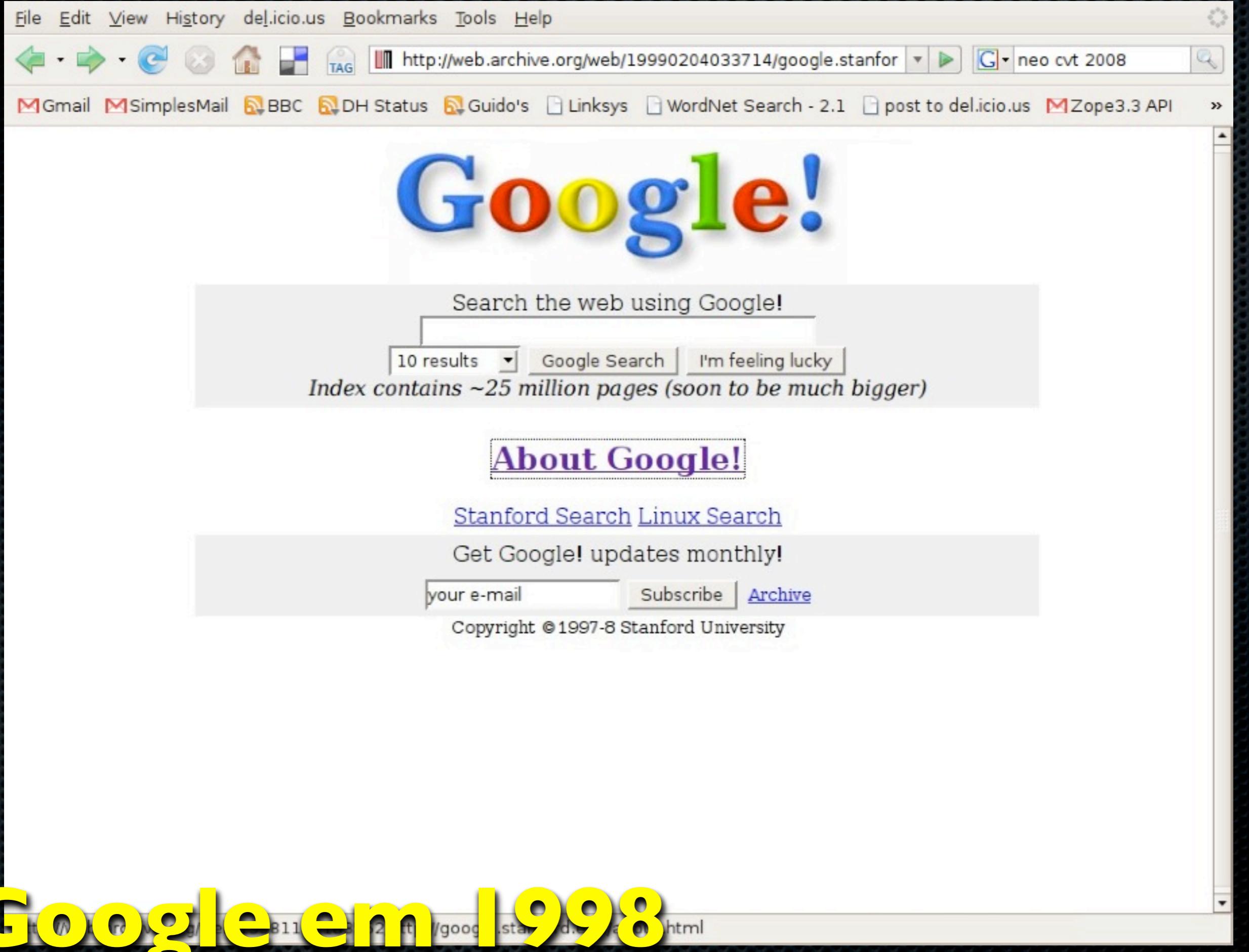


python™

a arma secreta do Google

Luciano Ramalho

luciano@ramgarlic.com



Google em | 1998

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- [Pictures and stats for the Stanford Google Hardware](#)

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- Current Development: [Sergey Brin](#), [Larry Page](#), and [Craig Silverstein](#)
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Last modified: Sun Sep 27 20:26:46 PDT 1998

<http://web.archive.org/web/19990204033714/http://www.python.org/>



O que é Python

- Linguagem de uso geral
 - Web, desktop, redes, computação gráfica e científica
- Multi-plataforma
 - Linux, Windows, Mac, Unix, Nokia S-60...
- Amplo suporte de fornecedores de TI
 - Google, IBM, Oracle, Microsoft, RedHat, Amazon...
- Sintaxe simples e clara mas muito expressiva
 - Aprendizagem rápida, produtividade em dias

Linguagem Expressiva?

O que isso significa na prática?

Linguagem COBOL

Java

```
import java.io.*;
import java.util.*;

public class LW implements Comparator{
    public static void main(String[] args) {
        LW lw = new LW();
        lw.somaExtensoes(args[0]);
    }

    public void somaExtensoes(String arq) {
        try {
            BufferedReader reader = new BufferedReader(new FileReader(arq));
            String linha;
            HashMap dict = new HashMap();
            while ((linha = reader.readLine()) != null) {
                String ext = linha.substring(linha.lastIndexOf('.')+1,linha.length());
                Integer i = (Integer)dict.get(ext);
                if (i == null) i = new Integer(0);
                dict.put(ext,new Integer(i.intValue() + 1));
            }

            TreeSet ts = new TreeSet(this);
            ts.addAll(dict.entrySet());
            Iterator it = ts.iterator();
            while (it.hasNext()) {
                Map.Entry me = (Map.Entry)it.next();
                System.out.println(me.getKey() + " - " + me.getValue());
            }
        } catch (Exception e) {
            System.out.println("Exception e: " + e);
            e.printStackTrace();
        }
    }

    public int compare (Object o1, Object o2) {
        int i1 = ((Integer)((Map.Entry)o1).getValue()).intValue();
        int i2 = ((Integer)((Map.Entry)o2).getValue()).intValue();
        return i2 - i1;
    }
}
```

Java

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import java.util.*;

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                dict.put(ext,new Integer(i.intValue() + 1));
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            }
        } catch (Exception e) {
            System.out.println("Exception e: " + e);
            e.printStackTrace();
        }
    }

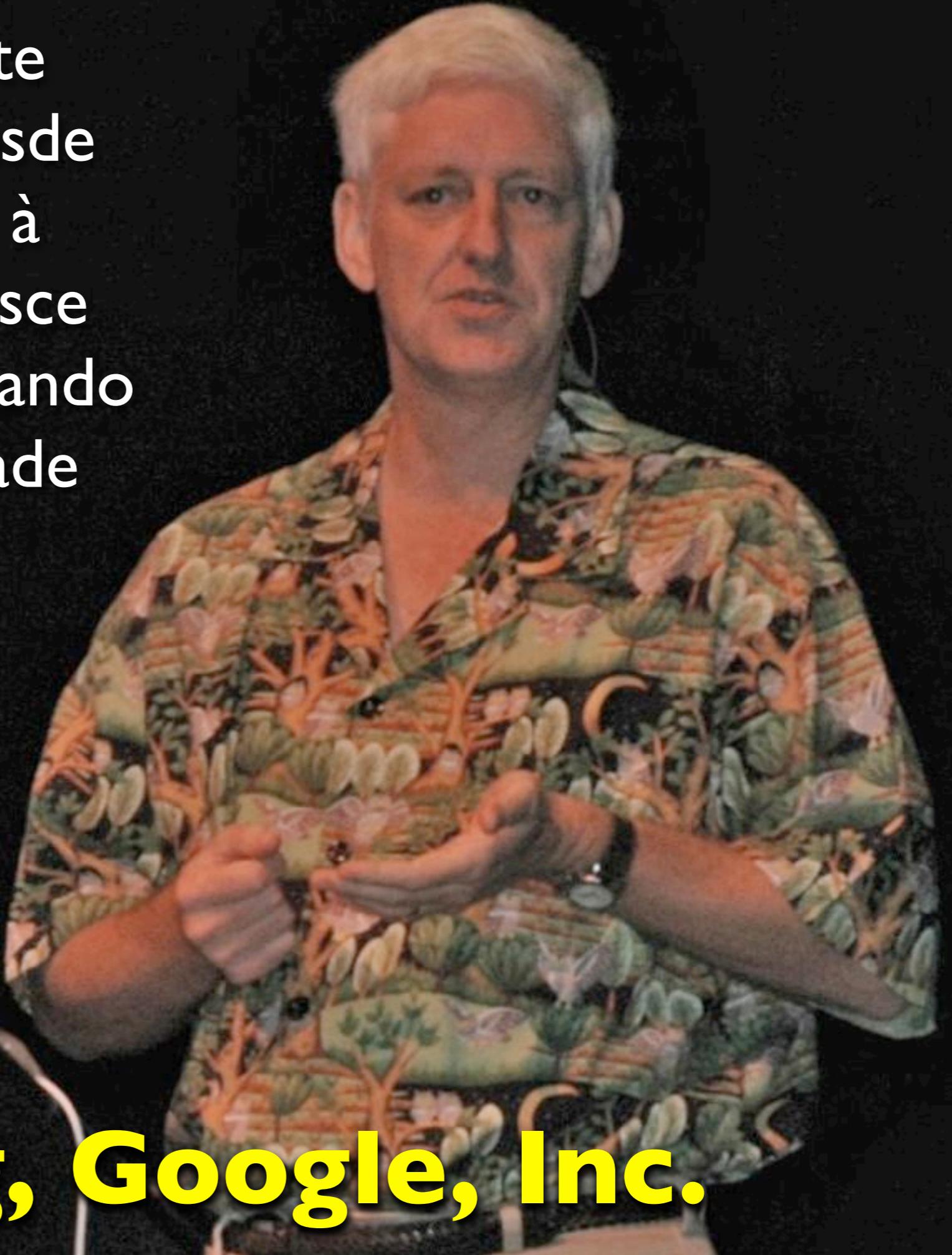
    public int compare (Object o1, Object o2) {
        int i1 = ((Integer)((Map.Entry)o1).getValue()).intValue();
        int i2 = ((Integer)((Map.Entry)o2).getValue()).intValue();
        return i2 - i1;
    }
}
```

Python

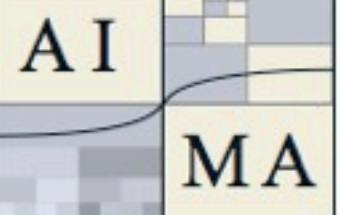
```
#!/usr/bin/env python
linhas = open('massa.txt').readlines()
dic_ext = {}
for linha in linhas:
    ext = linha.split('.')[ -1]
    ext = ext.strip()
    dic_ext[ext] = dic_ext.get(ext,0) + 1

rel = dic_ext.items()
rel = [ (qtd, ext) for (ext, qtd) in rel ]
rel.sort()
rel.reverse()
for item in rel:
    print '%3d %s' % item
```

Python tem sido uma parte importante do Google desde o início, e continua sendo à medida que o sistema cresce e evolui... estamos procurando mais pessoas com habilidade nesta linguagem.



Peter Norvig, Google, Inc.



AIMA Home

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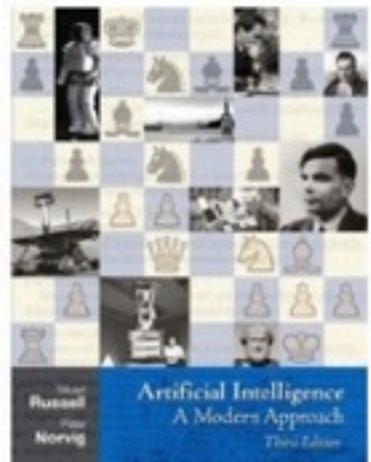
Contents

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Online Code Repository

The goal is to have working code for all the algorithms versions of most of the algorithms. There is also some directory full of data files. Let peter@norvig.com know if you would like to contribute.

Supported Implementations

We offer the following three language choices, plus a few others.

- Java: [aima-java](#) project, by Ravi Mohan. [Read more](#)
- Python: [aima-python](#) project, by Peter Norvig.
- Lisp: [AIMA Lisp Overview](#), by Stuart Russell
- Data: [aima-data](#) project.

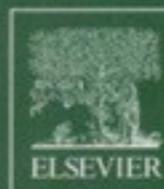
Unsupported Implementations

	AIMA Prolog	AIMA C++
Maintainers	Larry Holder	Larry Holder
Years Developed	1995-96	1995-96
AIMA Code Overview	Prolog Overview	C++ Overview
Download	Prolog download	C++ download

Implementation Choices

What languages are instructors recommending? To get an idea, I looked at the responses along with the names of various languages and looked up their popularity.

Language	23 Sep 2004	2 Feb 2005	15 Jun 2007	6 Oct 2008
none	8,080	20,100	75,200	100,000
java	1,990	4,930	44,200	60,000
c++	875	1,820	35,300	45,000
lisp	844	974	30,100	35,000



Stuart Russell
Peter Norvig

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<http://aima.cs.berkeley.edu/code.html>

```

1 ##### Lisp: Scheme Interpreter in Python
2
3 ## (c) Peter Norvig, 2010; See http://norvig.com/lispy.html
4
5 ##### Symbol, Env classes
6
7 from __future__ import division
8
9 Symbol = str
10
11 class Env(dict):
12     "An environment: a dict of {'var':val} pairs, with an outer Env."
13     def __init__(self, parms=(), args=(), outer=None):
14         self.update(zip(parms,args))
15         self.outer = outer
16     def find(self, var):
17         "Find the innermost Env where var appears."
18         return self if var in self else self.outer.find(var)
19
20 def add_globals(env):
21     "Add some Scheme standard procedures to an environment."
22     import math, operator as op
23     env.update(vars(math)) # sin, sqrt, ...
24     env.update(
25         {'+':op.add, '-':op.sub, '*':op.mul, '/':op.div, 'not':op.not_,
26          '>':op.gt, '<':op.lt, '>=':op.ge, '<=':op.le, '=':op.eq,
27          'equal?':op.eq, 'eq?':op.is_, 'length':len, 'cons':lambda x,y:[x]+y,
28          'car':lambda x:x[0], 'cdr':lambda x:x[1:], 'append':op.add,
29          'list':lambda *x:list(x), 'list?': lambda x:isa(x,list),
30          'null?':lambda x:x==[], 'symbol?':lambda x: isa(x, Symbol)})
31     return env
32
33 global_env = add_globals(Env())
34
35 isa = isinstance
36
37 ###### eval
38
39 def eval(x, env=global_env):
40     "Evaluate an expression in an environment."
41     if isa(x, Symbol):           # variable reference
42         return env.find(x)[x]
43     elif not isa(x, list):       # constant literal
44         return x
45     elif x[0] == 'quote':        # (quote exp)
46         (_, exp) = x
47         return exp
48     elif x[0] == 'if':           # (if test conseq alt)
49         (_, test, conseq, alt) = x
50         return eval((conseq if eval(test, env) else alt), env)
51     elif x[0] == 'set!':          # (set! var exp)
52         (_, var, exp) = x
53         env.find(var)[var] = eval(exp, env)
54     elif x[0] == 'define':        # (define var exp)
55         (_, var, exp) = x
56         env[var] = eval(exp, env)
57     elif x[0] == 'lambda':        # (lambda (var*) exp)
58         (_, vars, exp) = x
59         return lambda *args: eval(exp, Env(vars, args, env))
60     elif x[0] == 'begin':         # (begin exp*)
61         for exp in x[1:]:
62             val = eval(exp, env)
63         return val
64     else:                         # (proc exp*)
65         exps = [eval(exp, env) for exp in x]
66         proc = exps.pop(0)
67         return proc(*exps)
68
69 ##### parse, read, and user interaction
70
71 def read(s):
72     "Read a Scheme expression from a string."
73     return read_from(tokenize(s))
74
75 parse = read
76
77 def tokenize(s):
78     "Convert a string into a list of tokens."
79     return s.replace('(', ' ( ').replace(')', ') ').split()
80
81 def read_from(tokens):
82     "Read an expression from a sequence of tokens."
83     if len(tokens) == 0:
84         raise SyntaxError('unexpected EOF while reading')
85     token = tokens.pop(0)
86     if '(' == token:
87         L = []
88         while tokens[0] != ')':
89             L.append(read_from(tokens))
90         tokens.pop(0) # pop off ')'
91         return L
92     elif ')' == token:
93         raise SyntaxError('unexpected )')
94     else:
95         return atom(token)
96
97 def atom(token):
98     "Numbers become numbers; every other token is a symbol."
99     try: return int(token)
100    except ValueError:
101        try: return float(token)
102        except ValueError:
103            return Symbol(token)
104
105 def to_string(exp):
106     "Convert a Python object back into a Lisp-readable string."
107     return '(+ ' .join(map(to_string, exp))+')' if isa(exp, list) else str(exp)
108
109 def repl(prompt='lis.py> '):
110     "A prompt-read-eval-print loop."
111     while True:
112         val = eval(parse(raw_input(prompt)))
113         if val is not None: print to_string(val)

```

lis.py: interpretador Lisp (Scheme) em 113 linhas de Python, por Peter Norvig

```
>>> from lis import repl
>>> repl()
lis.py> (* 7 3)
21
lis.py> (define resposta (* 6 7))
lis.py> resposta
42
lis.py> (define ! (lambda (n) (if (= n 0) 1 (* n (! (- n 1))))))
lis.py> (! 4)
24
lis.py> (! 5)
120
lis.py> (! 197)
10007840558408082122130389497134473659904776124145643156372043719
15587343235626799299914070366966935566947378481954772384977466613
67777918006944650646265409257583733981874437495228286501182991424
47739508657606635346735333579872783783532869428043930552260307311
88238628318646302096556423610922923784067025686796088553504768000
000000000000000000000000000000000000000000000000000000000000000000000000
lis.py> !
<function <lambda> at 0x1004cbd70>
lis.py>
```

Demo: lis.py

Exemplo: relógio gráfico

```
import Tkinter
from time import strftime

relogio = Tkinter.Label()

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

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

tictac()
relogio.mainloop()
```



Exemplo: cliente Twitter

```
import sys
import urllib
import json

if len(sys.argv) == 2:
    busca = sys.argv[1]
else:
    print 'Informe o texto da busca: {0} "texto"'.format(__file__)
    sys.exit(1)

url = 'http://search.twitter.com/search.json?q=' + busca
resposta = urllib.urlopen(url).read()
documento = json.loads(resposta)
resultados = documento['results']
for resultado in resultados:
    print u'{from_user}: {text}\n'.format(**resultado)
print '{0} resultados exibidos'.format(len(resultados))
```



Exemplo: servidor TCP/IP

```
from twisted.internet.protocol import Protocol, Factory
from twisted.internet import reactor
from time import asctime

class ServidorHora(Protocol):
    def dataReceived(self, data):
        self.transport.write(asctime())

f = Factory()
f.protocol = ServidorHora

reactor.listenTCP(9999, f)
reactor.run()
```

Para testar:

```
$ telnet 127.0.0.1 9999
```





Quem usa Python?




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TIOBE Programming Community Index for September 2011

September Headline: Programming Language D back in the top 20

This month the programming language D hits the top 20, replacing F# that cracked the top 20 for the first time last month. Unlike F#, The D language is not new. It has already been in the top 20 from 2007 till the middle of 2009. Wikipedia gives a hint about the comeback of D: "The release of Andrei Alexandrescu's book 'The D Programming Language' on June 12, 2010 marked the stabilization of D 2.0." In the charts we can see that the D language is gradually rising again since that date.

The TIOBE Programming Community index is an indicator of the popularity of programming languages. The index is updated once a month. The ratings are based on the number of skilled engineers world-wide, courses and third party vendors. The popular search engines Google, Bing, Yahoo!, Wikipedia, YouTube and Baidu are used to calculate the ratings. Observe that the TIOBE index is not about the best programming language or the language in which *most lines of code* have been written.

The index can be used to check whether your programming skills are still up to date or to make a strategic decision about what programming language should be adopted when starting to build a new software system. The definition of the TIOBE index can be found [here](#).

Position Sep 2011	Position Sep 2010	Delta in Position	Programming Language	Ratings Sep 2011	Delta Sep 2010	Status
1	1	=	Java	18.761%	+0.85%	A
2	2	=	C	18.002%	+0.86%	A
3	3	=	C++	8.849%	-0.96%	A

Search

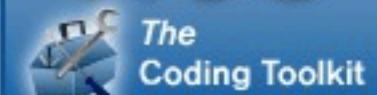


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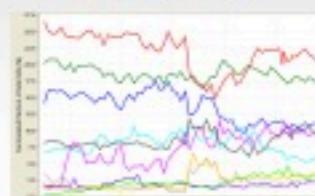
[Code Beautifier 7.3.14](#)

Configurable FREE code beautifier for the JAVA language supporting SUN CS

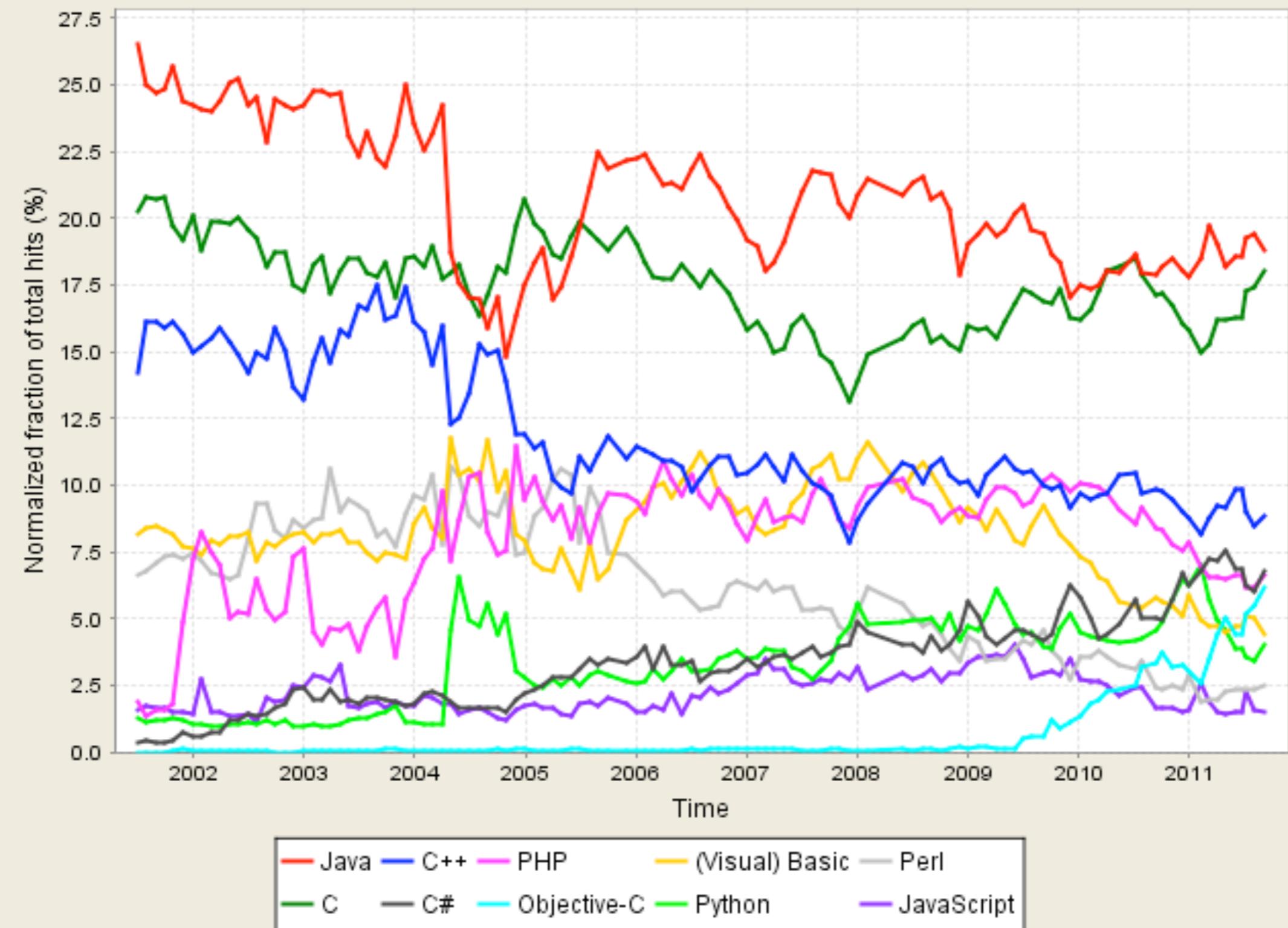
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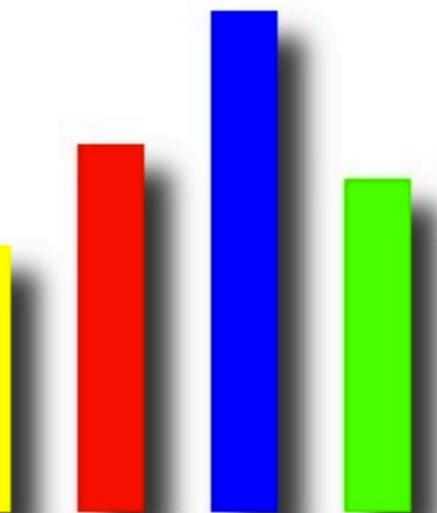
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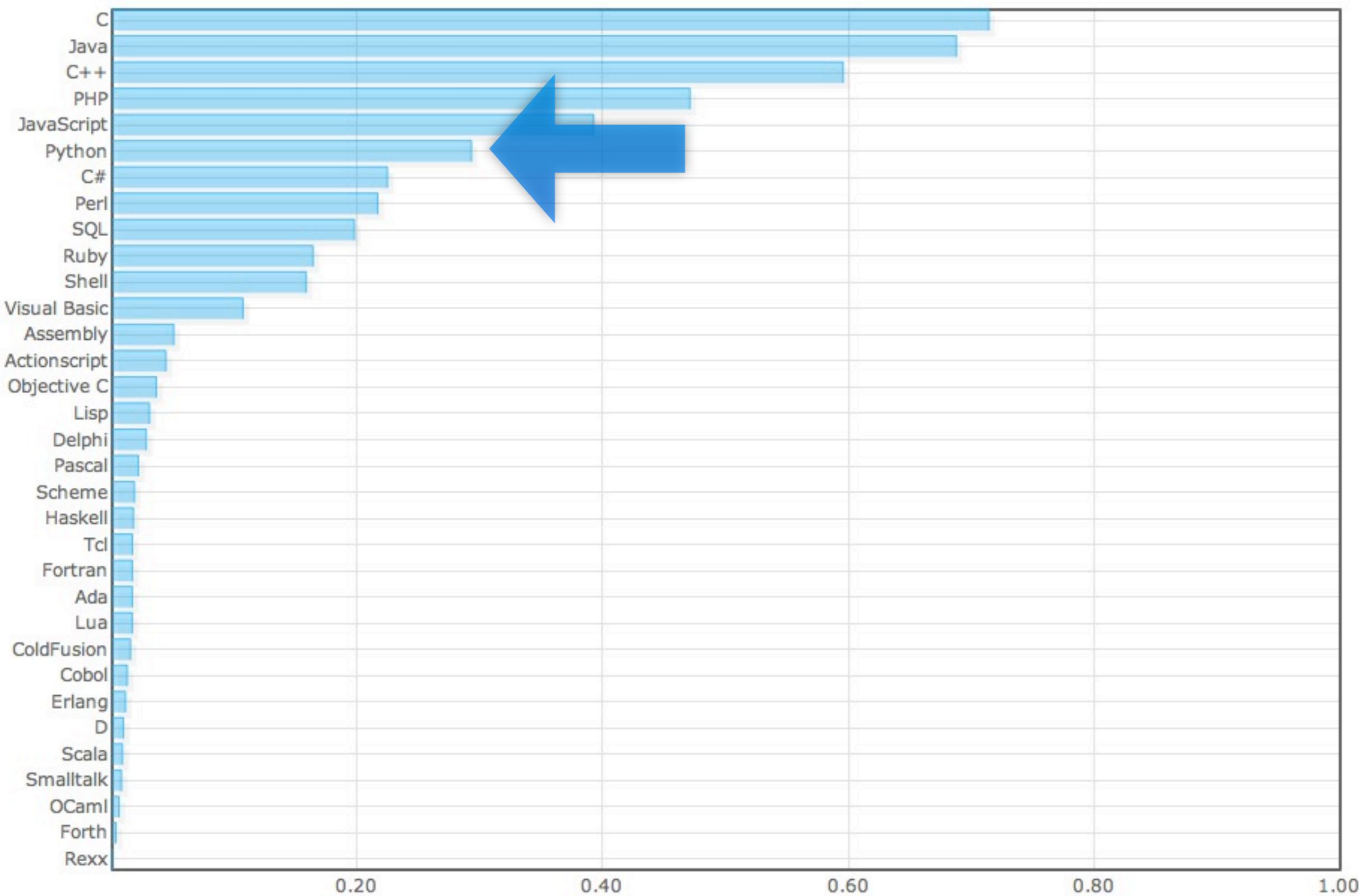
Last data update: *Wed Apr 13 14:57:11 +0200 2011*

We have attempted to collect a variety of data about the relative popularity of programming languages, mostly out of curiosity. To some degree [popularity does matter](#) - however it is clearly not the only thing to take into account when choosing a programming language. Most experienced programmers should be able to learn the basics of a new language in a week, and be productive with it in a few more weeks, although it will likely take much longer to truly master it.

Browser requirements: sadly, yes, this site requires a browser that supports Javascript and the canvas tag. I wasn't happy with other options for creating charts in image formats, and this also saves some bandwidth, since the Javascript is only downloaded once. Firefox, IE and Safari ought to work, although I haven't tested it with the latter. Konqueror apparently does not work. The charts are created with [Chartr](#) and [Flotr](#).

Normalized Comparison

This is a chart showing combined results from all data sets, listed individually below.



Áreas de aplicação

- desenvolvimento Web
- computação gráfica
- administração de sistemas
- integração de sistemas (glue language)
- computação científica
- games

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(Rock in rio 201...
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Dropbox Reveals Tremendous Growth with Over 200 Million Files Saved Daily by More Than 25 Million People

Service Spans 175 Countries and Launches in Spanish, German, French and Japanese

SAN FRANCISCO, Calif. – April 18, 2011 -- Dropbox, a free service that lets people bring their documents, photos and videos anywhere and share them easily, today announced that more than 25 million people have joined Dropbox and are using it to save more than 200 million files every day. These files are available from any computer, smartphone or iPad.

The company also announced the immediate availability of the Dropbox service in Spanish, French, German and Japanese. People around the world are using Dropbox to share pictures with family, write papers for school, tackle projects with teammates and even coordinate disaster relief. Dropbox has paying customers in more than 175 countries and more than half of Dropbox users live outside the U.S. With this first set of translations, millions more will be able to enjoy Dropbox in their native language and share with family and friends. [Read more.](#)

Selected Articles

[View all articles](#)

[When big doesn't compute](#)

by Kim Girard, Boston Globe – 9/19/2011

MIT graduates, who in years past flocked to the biggest, most prestigious technology and consulting companies to begin their careers, are increasingly taking jobs at start-ups and smaller companies

[Web is wonderful for free help](#)

by Rhonda Abrams, USA Today – 9/22/2011

Everyone in our office likes using this to store and share our files, especially when we're working on a project with writers and editors

[The Next Establishment](#)

by Jack Deligter and Elizabeth Nicholas, Vanity Fair – 10/20/2011

With millions of users and a valuation some estimate to be in the billions, Dropbox is making thumb drives everywhere quake in their

[Everything You Need to Know About the Cloud](#)

by Rebecca J. Rosen, The Atlantic – 9/18/2011

Dropbox users save more than one million files a day in less than five minutes.



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Guia do desenvolvedor

Bem-vindo ao Google App Engine! Este guia do desenvolvedor contém tudo o que você precisa para criar aplicativos da web escaláveis usando a tecnologia do Google.

Você pode desenvolver o seu aplicativo do Google App Engine para qualquer um dos dois ambientes de aplicativos a seguir:

[Java](#)

- um ambiente completo de execução do Java 6 em um ambiente seguro do sandbox
- com base em padrões comuns da tecnologia de web em Java, incluindo servlets e WARs, JDO e JPA, java.net, JavaMail e JCache
- um [plug-in para a IDE Eclipse](#) agiliza a criação, os testes e a implementação de projetos
- suporta outras linguagens que compilam a JVM ou usam interpretadores com base na JVM, como JRuby, JavaScript (Rhino) e Scala

[Python](#)

- um interpretador rápido de Python 2.5 em um ambiente seguro do sandbox
- inclui a biblioteca Python padrão completa
- o código compilado do aplicativo é armazenado em cache para responder rapidamente às solicitações da web
- suporta estruturas populares de aplicativos da web, incluindo [Django](#)
- funciona com qualquer aplicativo que suporta CGI ou WSGI
- inclui uma API de modelagem de dados complexa para o armazenamento de dados

**NUKE Powers
Sony Pictures
Imageworks on
Alice in
Wonderland**

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Images courtesy of Imageworks.

**TVBEUROPE ★ Editors' Awards
Best of IBC 2011**



HIERO wins "Best of IBC" Award

The Foundry is pleased to announce that HIERO – its desktop application for collaborative VFX workflow – was recognised with a "Best of IBC" award in...

[More...](#)

The Foundry wins Tech Track 100 award

The Foundry make the Sunday Times Microsoft Tech Track 100 for the 2nd year in a row...



[YouTube](#) The Foundry Channel



The Foundry's Showreel 2011
Tron Legacy © Disney Enterprises, Inc. All Rights Reserved.

FoundryVFX Tweets

The Foundry, NUKE





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Spin Productions



Industrial Light & Magic



DreamWorks Animation SKG



Big Animation (India)

Ben Ibl: Pink Floyd's *The Wall* Live

Deakin Motion.Lab: Australia

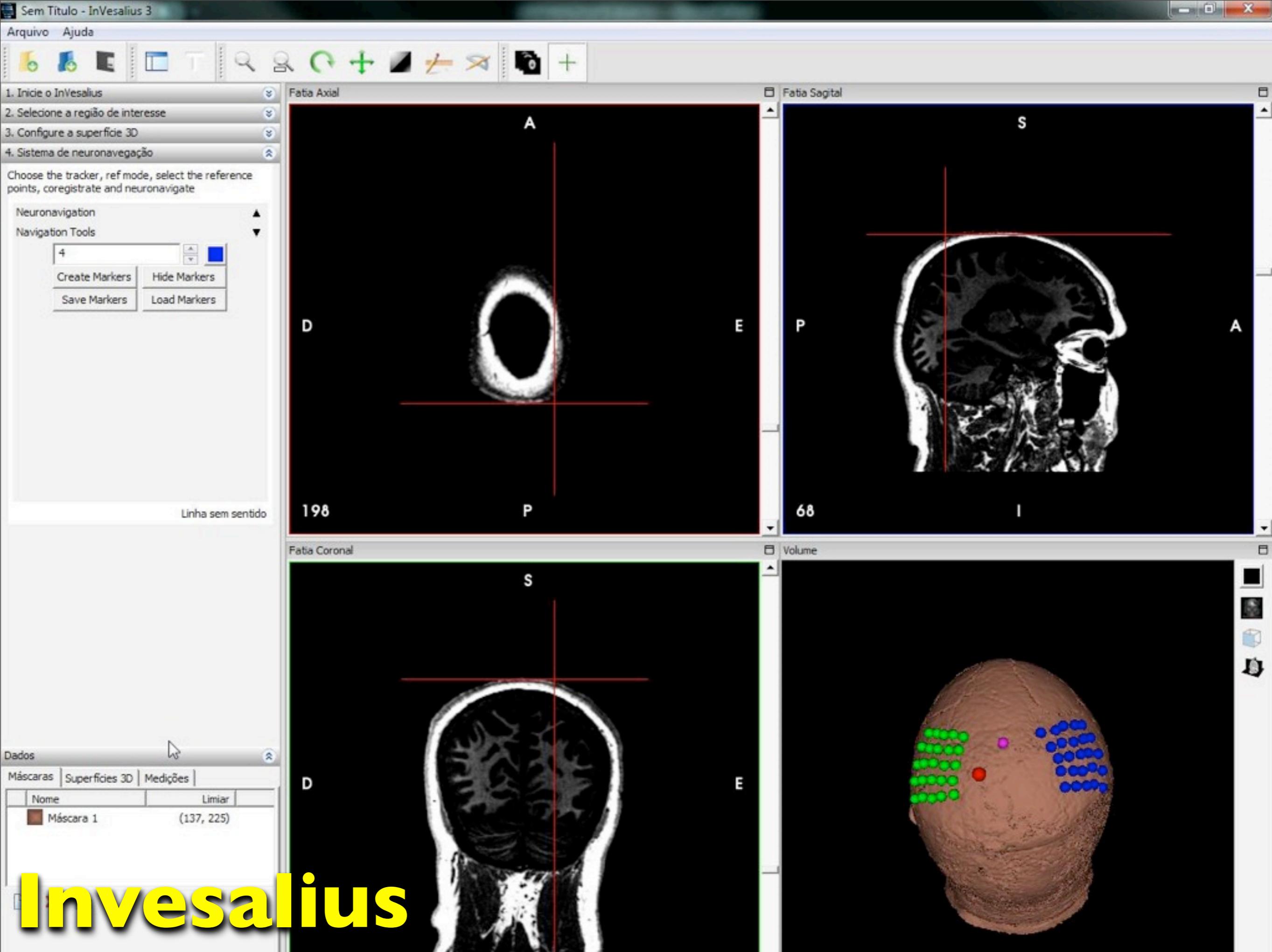
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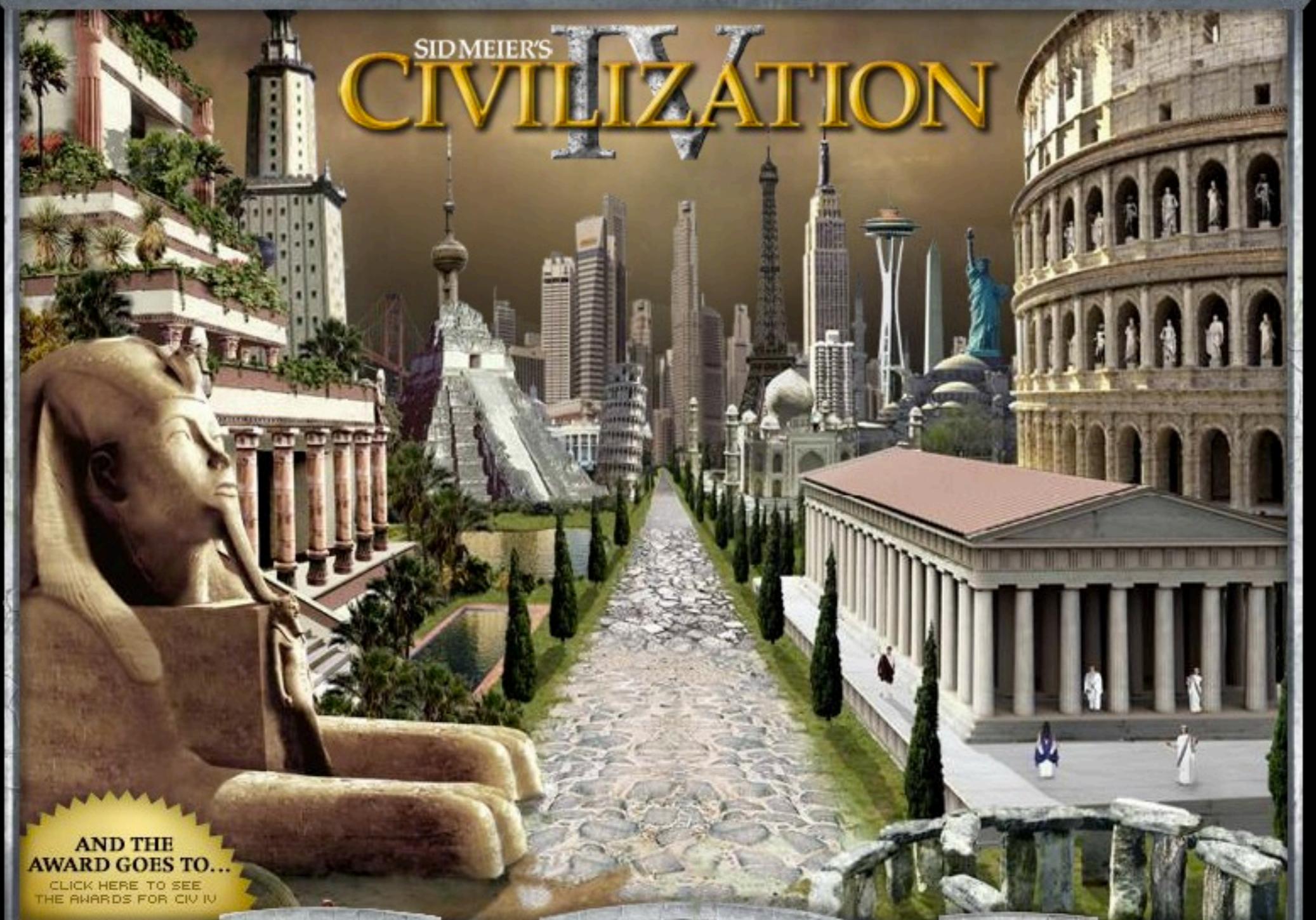
DreamWorks Animation SKG

DreamWorks Animation SKG uses Autodesk Maya and Autodesk Lustre software to author and produce in stereoscopic 3D for the animation film *Monsters vs. Aliens*.



Autodesk Maya





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LATEST NEWS

1. v1.61 Patch, PitBoss, and SDK Released
2. Civ IV Recognized in "Best of 2005" Awards.
3. Firaxis Launches a Civilization Poll.
4. Civ IV v1.09 Patch Released.

LATEST FROM THE FORUMS

1. Expansion Civilization IV [C]
2. Economic Inertia [C]
3. Marathon mode is excellent. [A]
4. Diplomatic Victory [A]

Civilization IV

1 hit

352

1x



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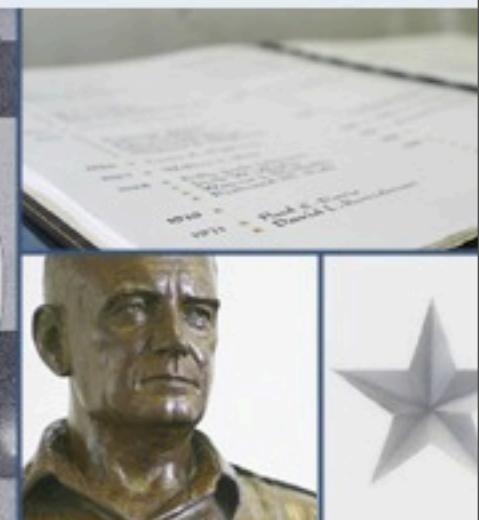
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Mission

The Central Intelligence Agency (CIA) is an independent US Government agency responsible for providing national security intelligence to senior US policymakers.

Featured Story

[Presidential Reflections: Gerald R. Ford](#)

When Gerald Ford took office in August 1974, he faced a series of tough foreign policy challenges, from facilitating a Cold War détente to reducing conflict in the Middle East. Ford made progress toward better relations with the Communist bloc when

What's New

[September 29](#) - Excerpts of Remarks by Director David H. Petraeus at the CIA Diversity Awards (September 28, 2011).

[September 27](#) - Event Highlights the CIA's Role in Busting Cold War Missile Gap Myth.

FBI e CIA



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PARTICIPE DA CAMPANHA NACIONAL DO DESARMAMENTO

TIRE UMA ARMA DO FUTURO DO BRASIL

Você terá anonimato garantido, indenização mais rápida e a arma será inutilizada.

Brasil exporta políticas de proteção social

Banco Mundial quer ajuda brasileira para construir estratégia para a década de 2012-2022. Motivo é sucesso em retirar 28 milhões da pobreza em oito anos e condução da economia durante a crise financeira

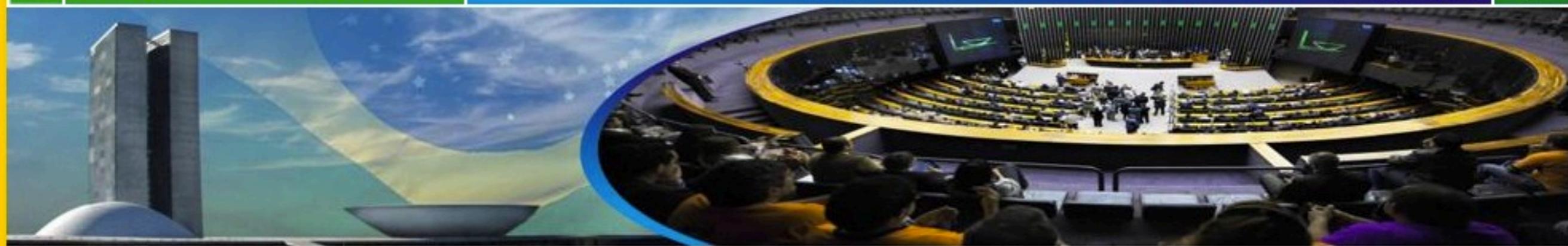
Desmatamento na Amazônia é o menor para agosto desde início da série histórica

- Superavit da balança em setembro é 185% maior que o do mesmo mês de 2010
- País tomou providências para resistir a eventual agravamento da crise, afirma Dilma
- Inflação medida pelo IPC-S desacelera e fecha setembro em 0,50%
- Caixa entrega mais de 800 moradias do Minha Casa, Minha Vida no RJ e em SP
- O Brasil conquistou certificações de níveis de proficiência em língua Inglesa nesta 3ª
- Inaugurada semana de integração com o Poder Judiciário

Serviços Públicos

- [Banco Central: taxas de câmbio](#)
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Consulta de Proposições

Projeto de Lei

Número

Ano

OK

Pesquisa Completa

Deputados

Agenda

Legislação

Política



Câmara leva canais de participação popular até os deputados

Atividade legislativa**Pesquise as proposições em votação na Câmara**

Saiba em que fase de tramitação estão as proposições em discussão na Câmara e conheça os textos na íntegra.

[Saiba mais](#)**Acompanhe a Tramitação**

Receba por e-mail informações sobre a tramitação de proposições.

Política

Deputados podem votar MP que aumenta IOF para evitar especulação com dólar

A intenção do governo, ao editar a MP, é impedir a ação de especuladores que apostam na desvalorização do real. O relator, deputado Reinhold Stephanes, quer evitar, no entanto, que a medida acabe prejudicando a atividade exportadora.

Últimas notícias

- 20:49 - Reunião amanhã decidirá se Congresso analisará veto sobre royalties na quarta
- 20:24 - Relator apresenta nesta terça parecer sobre agentes de saúde
- 19:46 - Deputado quer que Brasil amplie para 2,5% do PIB o investimento em tecnologia

[mais notícias da Agência Câmara »](#)

Câmara dos Deputados

PRESIDÊNCIA

- Marco Maia comemora decisão do plenário sobre recursos para a saúde

FIQUE POR DENTRO

- Criação de Estados
- Previdência complementar - servidor público
- Reforma da Previdência

CÂMARA DESTACA

- 54ª Legislatura (2011-2015)
- Memória Política
- Mulheres no Parlamento

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WEBCÂMARA

- Ao vivo: acompanhe o plenário e as comissões

Projetos Open Source



Características

- Não obriga a declarar variáveis, mas obriga a inicializar

```
>>> a = 10
>>> c = a + b
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
NameError: name 'b' is not defined
```

- Tipagem dinâmica forte, obriga conversões explícitas

```
>>> a = '9'
>>> b = 10
>>> c = a + b
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
TypeError: cannot concatenate 'str' and 'int' objects
```



Características 2

- Orientada a objetos, mas não obriga a criar classes
- Suporta sobrecarga de operadores e herança múltipla
- Usa exceções, mas não obriga a declarar ou tratar
- Usa namespaces, módulos e pacotes
- Compilada para bytecode, como Java



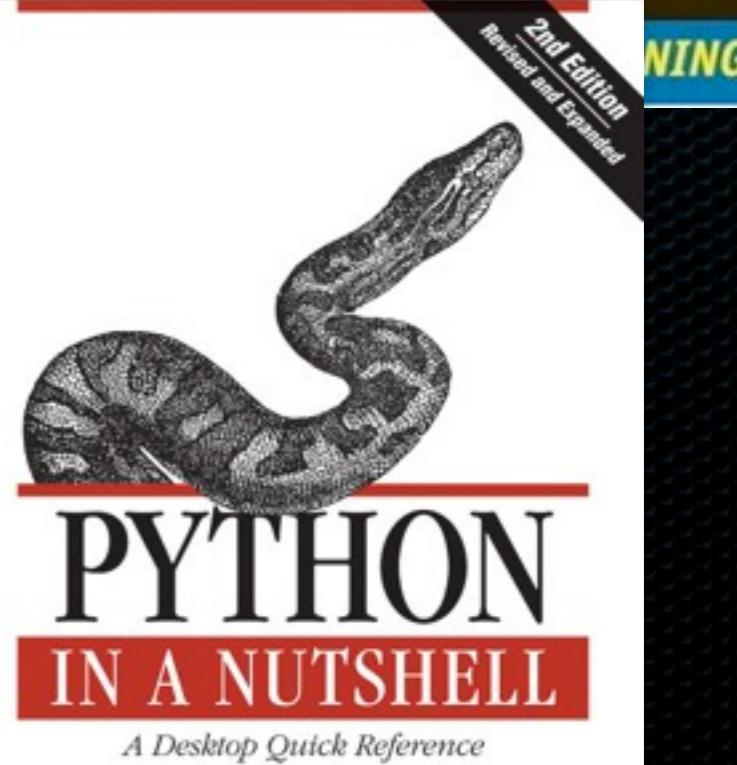
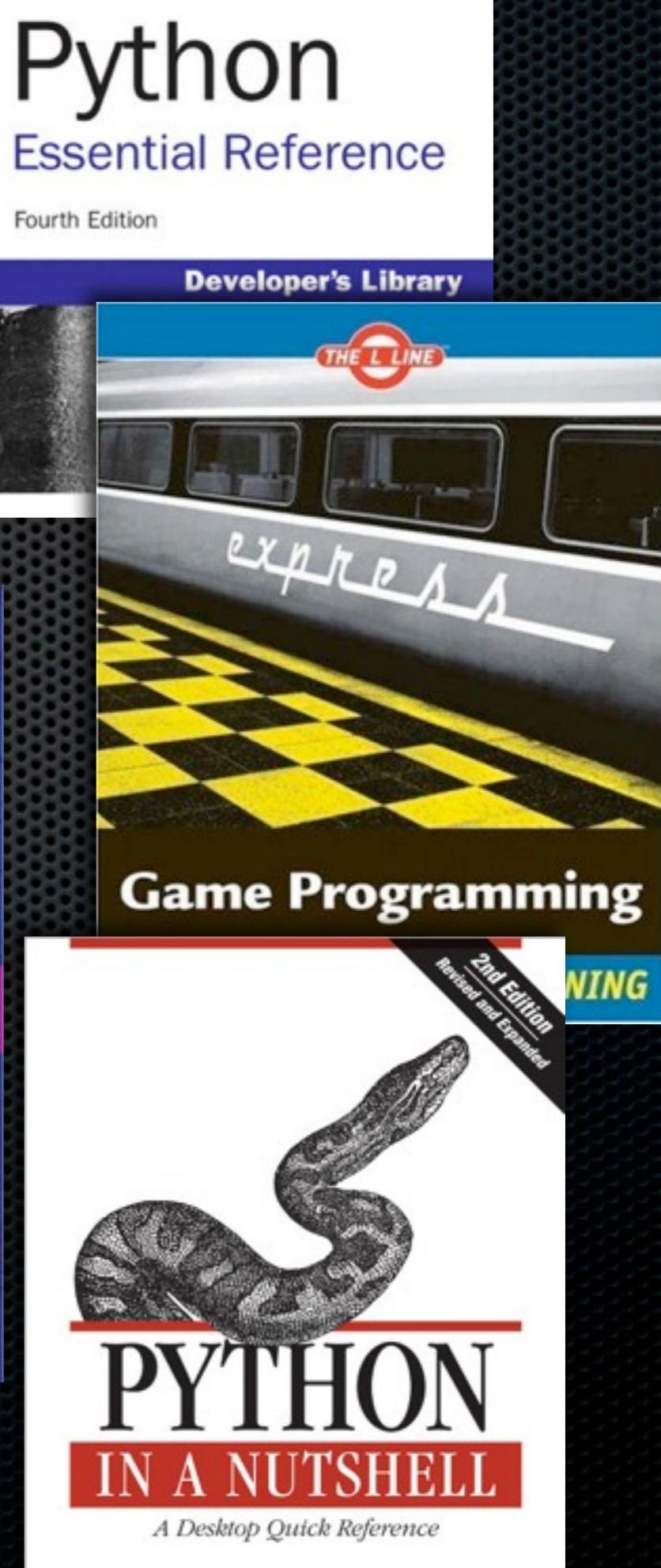
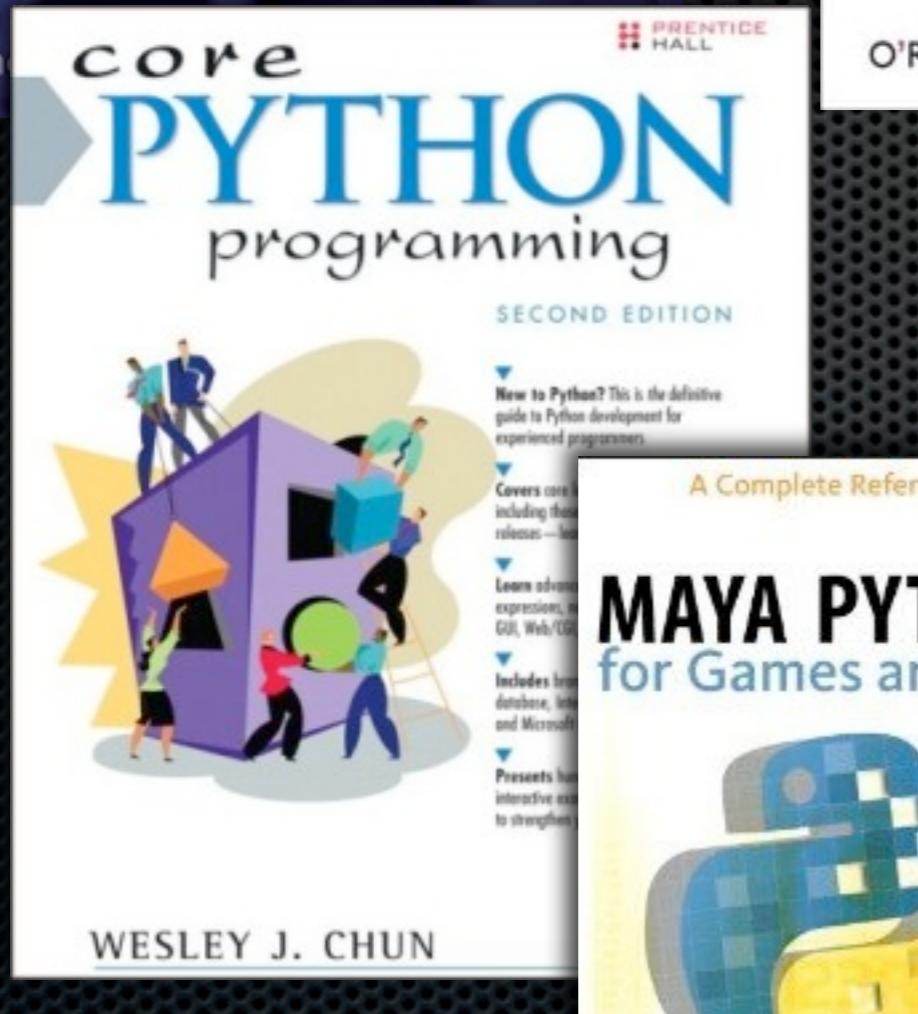
Implementações

- **C_{Py}thon**: o interpretador `python` padrão, implementando em C
 - pré-instalado na maioria dos Linux e no OSX
- **Jython**: implementado em Java, roda sobre a JVM
- **IronPython**: implementado em C#, roda sobre .net CLR
- **PyPy**: implementado em Python, compilação JIT
 - melhor desempenho que o C_{Py}thon em muitos testes
 - poderá substituir C_{Py}thon como interpretador principal



Porque aprender

- Linguagem acessível, resultados em pouco tempo
- Campos de atuação muito diversificados, em expansão
- Dominar novos conceitos e paradigmas
- Diversão e realização pessoal
- Resumindo: um ótimo investimento **em você**



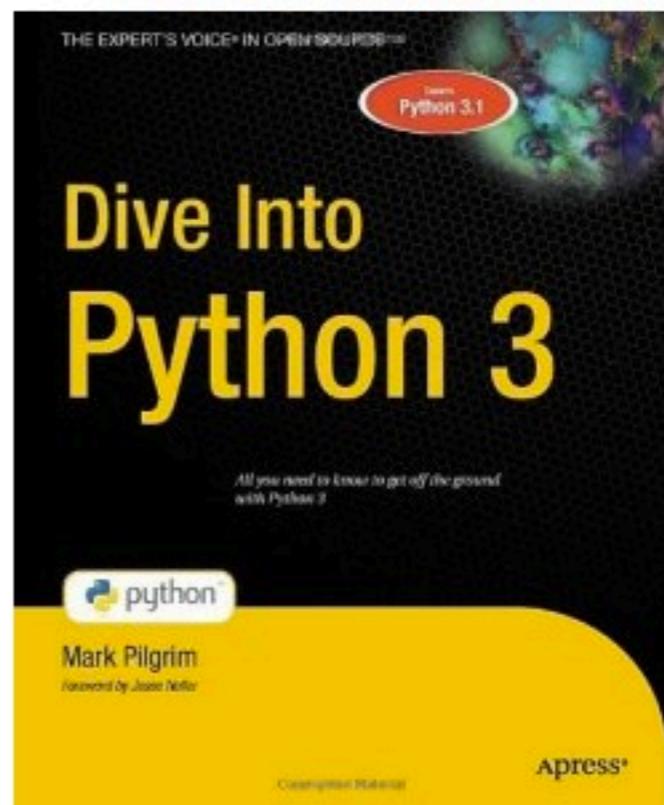
DIVE INTO PYTHON 3

Dive Into Python 3 covers Python 3 and its differences from Python 2. Compared to [Dive Into Python](#), it's about 20% revised and 80% new material. The book is now complete, but [feedback is always welcome](#).

TABLE OF CONTENTS ([EXPAND](#))

- 1. [What's New in "Dive Into Python 3"](#)
- 0. [Installing Python](#)
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- 2. [Native Datatypes](#)
- 3. [Comprehensions](#)
- 4. [Strings](#)
- 5. [Regular Expressions](#)
- 6. [Closures & Generators](#)
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diveintopython3.ep.io

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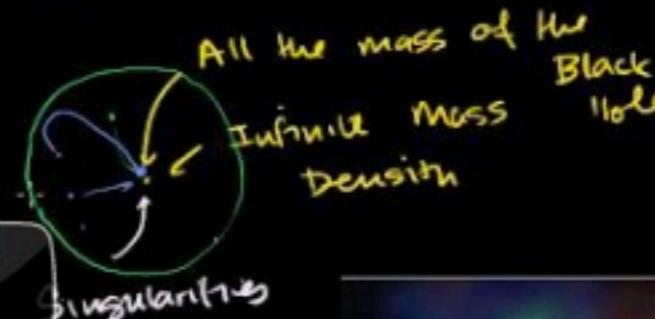
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White Dwarf



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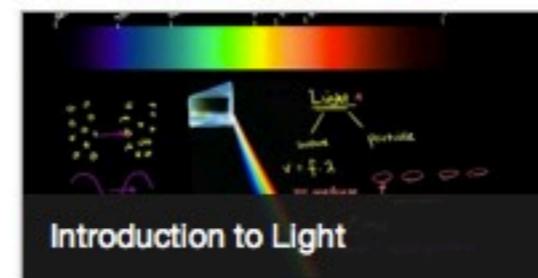
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For Loops in Python : Basics of for loops in Python

[« Previous Video: Python Lists](#)[Next Video: While Loops in Python »](#)

The screenshot shows a Python IDE interface. The top window is titled "For Loops in Python". It contains the following Python code:

```
sum = 0
for i in range(10):
    sum = sum + i
print sum
```

The bottom window is titled "Python Interpreter". It displays the following output:

```
6
10
15
21
28
36
45
>>>
```

A play button icon is overlaid on the interpreter window. At the bottom of the screen, there is a video player bar showing the time 00:00 / 10:15.

Comments:

I loved how you explained the code with the chalkboard after it was ran. That

26 votes, JBrennan95, 96 days and 6 hours ago

Khan Academy

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Programming Languages

This page contains classes, lectures, and tutorials about various computer programming languages. The technology lectures and classes provide a great way to pick up some new knowledge about your programming language of choice.

Classes

[Google's Python Class](#) and [Google's C++ Class](#)

Here are the complete Introductory Python and C++ programming classes taught at Google! The classes are geared for people with very little programming experience. Content provided includes written materials, lecture videos, and coding exercises.

Technology lectures

Following are videotaped lectures on programming-related technology areas. These lectures provide opportunities for students and faculty to learn directly from expert developers and can be used as "guest lectures" to accompany traditional programming courses.

C++

- [C++ Threads](#)
- [New Features in the Next C++ Standard](#)
- [C++ Stylistics](#)
- [The Java Memory Model](#)

code.google.com/edu/languages



Onde aprender mais

- python.org, python.org.br
- pythonbrasil.org.br ([slideshare.net #pythonbrasil](http://slideshare.net/pythonbrasil))
- Google Groups: [python-brasil](https://groups.google.com/forum/?hl=pt-BR&fழ=g%2Bpython-brasil)
- *Introdução à Programação com Python*, Nilo Menezes
- *Python e Django*, Osvaldo Santana e Thiago Galesi
- **Curso Gratuito 18/10, 19h-22h (metrô Paraíso):**
 - **Desenvolvimento Web fácil com Python e Django**
 - **Reservas: Globalcode.com.br 11-3145-2230**



Agradecimentos

- Guido van Rossum, pela linguagem Python
- Todo mundo que vem colaborando com Python
- Google, por pagar o salário de Guido, Peter, Alex Martelli e tantos outros pythonistas da pesada
- Rodrigo Senra, Marco André, Xiru, Pamela Fox e Peter Norvig por exemplos, imagens e inspiração
- Comunidade Python Brasil, pela troca de idéias, amizade e arbustos
- Agradecimento especial a você que ficou até o fim!