

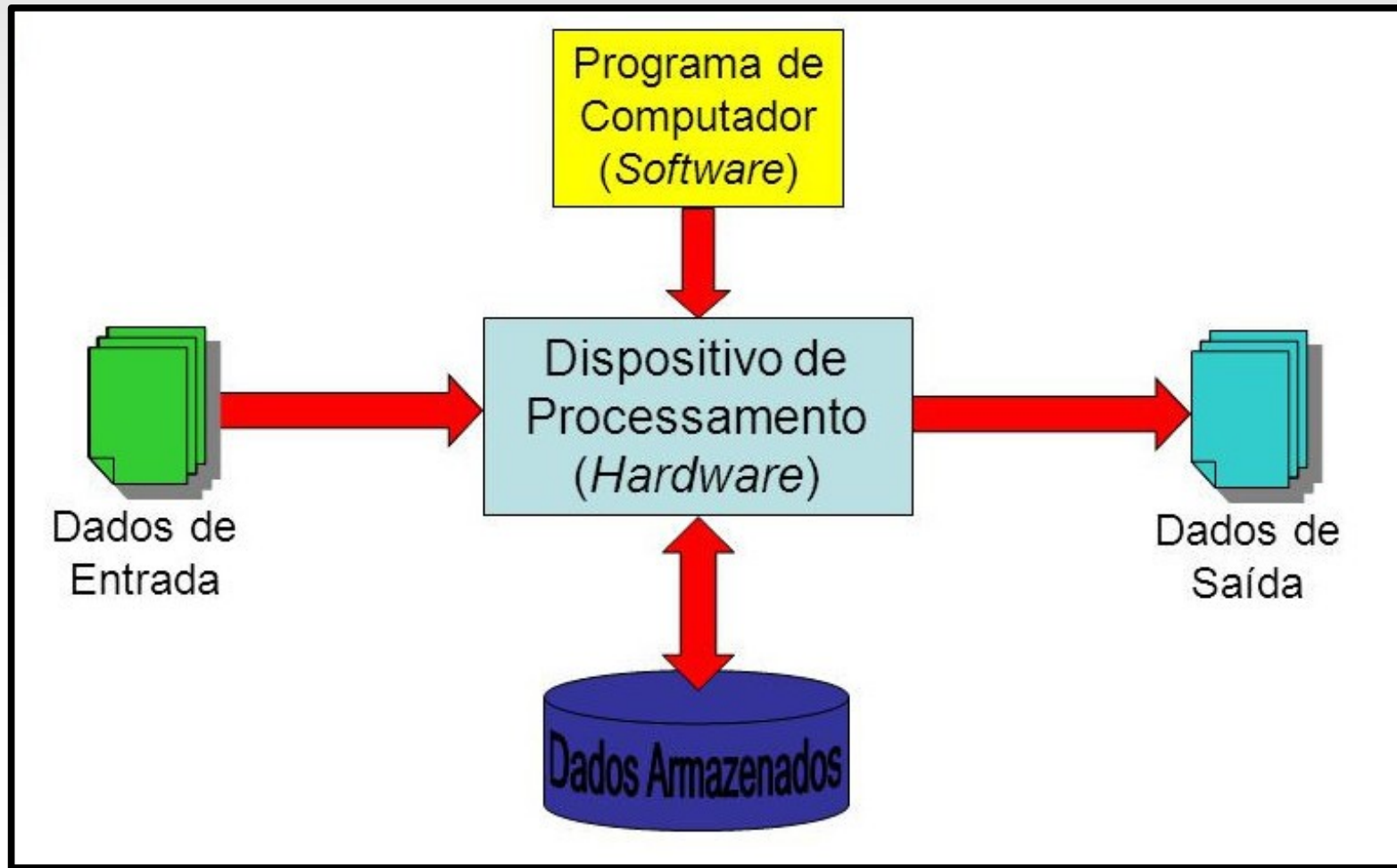
# *Introdução ao Processamento de Dados*

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`http://github.com/fsantanna/IPD`

# Processamento de Dados



# Software

- Sistemas Operacional
- Linguagem de Programação
- Sistemas de Rede

**Software Básico**

- Photoshop
- Word, Excel
- Firefox
- Jogos

**Software Aplicativo**

# Linguagem de Programação

- De quem pra quem?
  - tradutor
- Um programa que *reconhece* e executa programas
  - (compilador ou interpretador da linguagem)
- *Sintaxe (forma)* e Semântica (significado)
  - (a linguagem)

```
# Python
frase = raw_input()
print("----")
for i in range(1,5):
    print(i, frase)
print("----")
```

```
// C
#include <stdio.h>
int main (void) {
    char frase[255];
    scanf("%s", frase);
    printf("----\n");
    int i;
    for (i=1; i<5; i++) {
        printf("%d %s\n", i, frase);
    }
    printf("----\n");
    return 0;
}
```

# Sintaxe vs Semântica

Are semantics and s... x +

← stackoverflow.com/questions/209979/are-semantics-anc ↻ g Google 🔍 ☆ 📄 ⬇ 🏠 ☰

▲  
65  
▼

✓


Syntax is the grammar. It describes the way to construct a correct sentence. For example, *this water is triangular* is syntactically correct.

Semantics relates to the meaning. *this water is triangular* does not mean anything, though the grammar is ok.

Talking about the [semantic web](#) has become trendy recently. The idea is to enhance the markup (structural with HTML) with additional data so computer could make sense of the web pages more easily.

share improve this answer

answered Oct 16 '08 at 19:57

 **Christian Lescuyer**  
11.3k ● 2 ● 33 ● 37

# *Sintaxe* vs Semântica

- *Sintaxe* diferente, Semântica igual

```
chico@note:~$ lua
Lua 5.1.5 Copyright (C) 1994-2012 Lua.org, PUC-Rio
> list = { 1, 2, 3 }
> print(#list)
3
> □

chico@note:~$ python3
Python 3.4.3 (default, Oct 14 2015, 20:28:29)
[GCC 4.8.4] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> list = [ 1, 2, 3 ]
>>> print(len(list))
3
>>> □
```

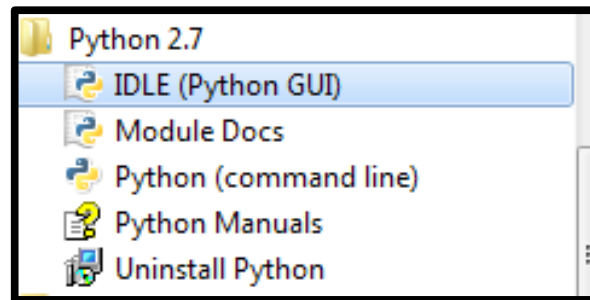
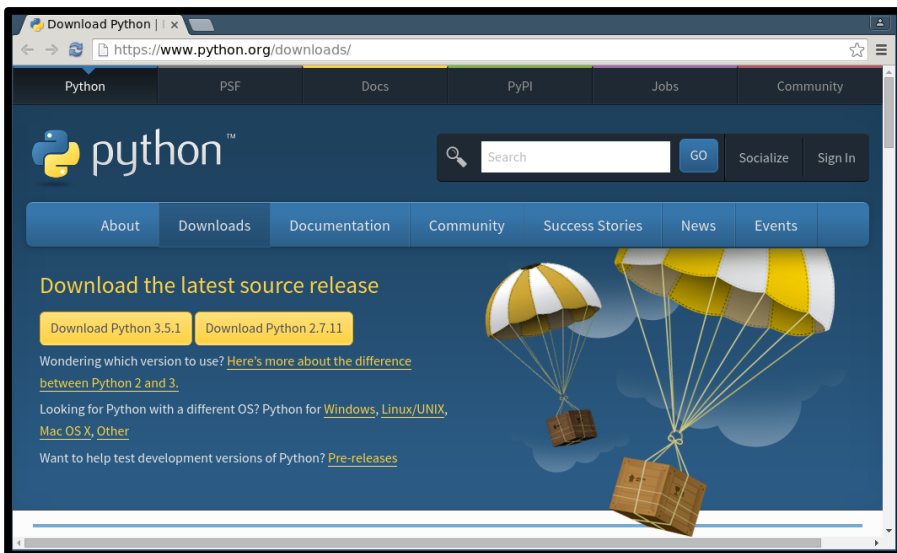
- *Sintaxe* igual, Semântica diferente

```
chico@note:~$ python2
Python 2.7.6 (default, Mar 22 2014, 22:59:56)
[GCC 4.8.2] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>> 1/2
0
>>>

chico@note:~$
chico@note:~$
chico@note:~$ python3
Python 3.4.3 (default, Oct 14 2015, 20:28:29)
[GCC 4.8.4] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> 1/2
0.5
>>> □
```

# Python

- Download 2.7.\*
  - [www.python.org/downloads](http://www.python.org/downloads)
- Instalar o arquivo baixado
  - <https://www.python.org/ftp/python/2.7.11/python-2.7.11.msi>
- Executar o “IDLE”



anim.gif

# Exemplo Real

- Lista com preços de ingressos
- Quero calcular o custo total
- Quero calcular a média

B	C
60	
35	
130	
50	
15	
290	58
SUM(B2:B6)	AVERAGE(B2:B6)

- Ex. Ler preços com “input”?



# Linguagens para Aplicações

Column name    Lead value    Excel:   
                      ↓                      ↓                      finanças,   
                                                                automação

Written code    VBA Code

MatLAB803.vi Diagram

MathscriptNode.vi Block Diagram

Untitled0 x

coordinates - Notepad

Ps    Ai

## ExtendScript Toolkit

Extend Photoshop and Illustrator with custom commands

MatLab: computação numérica

Aut

Photoshop: processamento de imagens



A	B	A e B A and B	A ou B A or B	não A not A
F	F	F	F	V
V	F	F	V	F
F	V	F	V	
V	V	V	V	