

Prof. Dr. Hartmut Ring
Universität Siegen

Python- Programmierung

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Python-Programmierung

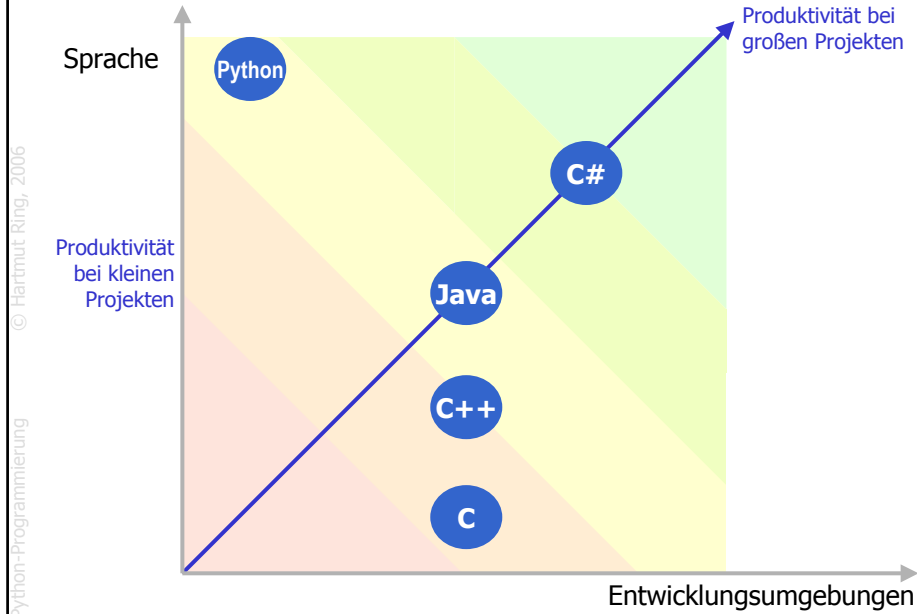
What is Python?

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

- Python is a **dynamic** object-oriented programming language that can be used for many kinds of software development.
- It offers strong support for integration with other languages and tools, comes with **extensive standard libraries**, and can be **learned in a few days**.
- Many Python programmers report **substantial productivity gains** and feel the language encourages the development of higher quality, more maintainable code.
- Python runs on **Windows, Linux/Unix, Mac OS X**, OS/2, Amiga, Palm Handhelds, and Nokia mobile phones. Python has also been ported to the Java and .NET virtual machines.
- Python is distributed under an OSI-approved **open source license** that makes it free to use, even for commercial products.

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Python-Programmierung



- Michael Weigend
Python Ge-packt
ISBN 3-8266-1512-3, mitp, 2. Aufl. 2005
16,95 €.
- Michael Weigend
Objektorientierte Programmierung mit Python. Version 2.4
ISBN 3-8266-1571-9, mitp, 2. Aufl. 2005
36,95 €
- Alex Martelli
Python in a Nutshell
ISBN 0-596-00188-6, O'Reilly, 2003
34,95 \$

- Python: <http://www.python.org/>
 - Aktuelle Version: Python 2.4.3:
<http://www.python.org/download/releases/2.4.3/>
 - Start mit Tutorial!
 - Direktmodus und Editor: IDLE
- Alternativer Editor: SciTE. <http://www.scintilla.org/SciTE.html>
 - Aktuelle Version 1.68
 - Die Datei `python.properties` öffnen und folgende Zeilen ändern:


```
command.go.*.py=pythonw -u "$(FileNameExt)"
command.go.*.py=c:\Python24\pythonw -u "$(FileNameExt)"
command.go.*.pyw=pythonw -u "$(FileNameExt)"
command.go.*.pyw=c:\Python24\pythonw -u "$(FileNameExt)"
```
 - http://scintilla.sourceforge.net/gen_python_api.zip herunterladen, auspacken und Anleitung in `gen_python_api.py` befolgen

Python: Visuelle Syntax

Beispiel: **Fibonacci**-Zahlen (jede Zahl ist Summe ihrer beiden Vorgänger)

```
n      0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17
fib(n) 0  1  1  2  3  5  8 13 21 34 55 89 144 233 377 610 987 1597 ...
```

Pascal

```
function fib(n: integer): integer;
var a, b, a0, i: integer;
begin
  if n < 2 then
    fib := n
  else begin
    a := 0;
    b := 1;
    for i := 2 to n do begin
      a0 := a;
      a := b;
      b := a0 + b;
    end;
    fib := b
  end
end

begin
  writeln (fib(5))
end.
```

C++

```
int fib (int n) {
  int a, b, a0, i;

  if (n < 2)
    return n;
  else {
    a = 0;
    b = 1;
    for (i=2; i<=n; i++) {
      a0 = a;
      a = b;
      b = a0 + b;
    }
    return b;
  }
}

int main() {
  cout << fib(5) << endl;
}
```

Python

```
def fib (n):

  if n < 2:
    return n
  else:
    a = 0
    b = 1
    for i in range(2, n+1):
      a0 = a
      a = b
      b = a0 + b
    return b

print fib(5)
```

Einfacher mit
Simultanzuweisung:

```
a, b = b, a+b
```