Produce impressive results and have fun too!

What is it?

Python® is a **mature, dynamically-typed**, **object-oriented** programming language used for many kinds of software development. It can be learned in a few days, comes with extensive standard libraries and offers strong support for integration with other languages and tools. Python programmers report substantial productivity gains and the language encourages the development of higher quality, more maintainable code. Python has a large community of friendly developers, several conferences and many books.

What does it look like?

```
# Do something with every word in a file.
import re
word_pattern = re.compile(r”[\w'-]+”)
for line in open(filename):
    for word in word_pattern.finditer(line):
        do_something_with(word.group(0))
```

```
import mx.ODBC.Windows as odbc
conn = odbc.connect(“MyDSN”)
curs = conn.cursor()
curs.execute(“””\
        SELECT name, citystate, phoneno
          FROM members
    ORDER BY citystate, name”””)
for row in curs.fetchone():
    print row.name, row.citystate, row.phoneno
```

Who uses it?

Industrial Light and Magic – integrated Python into their in-house C++ lighting tool, used to place light sources into a 3D scene and to facilitate the writing, generation, and previewing of shaders and materials used on CG elements.

Honeywell – integrated Python, COM, DocBook, OpenJade, and Word to create a documentation tool for BEACON, a visual programming environment. The tool was used for code reviews in the corporate software development methodology, and led to significant (>$1M) in cost savings.

United Space Alliance – (NASA's main shuttle support contractor) had experience with Python that led them to develop and deploy a Workflow Automation System (WAS) that met or exceeded all of NASA's specifications.

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Does it cost?

Python is distributed under an OSI-approved **open source** license that makes it free to use, even for commercial products. There are also vendors who sell feature-rich Python bundles and provide support services.

Do I have to run Linux?

Absolutely not! Python is platform-neutral and 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. Look for **Jython** and **IronPython**, respectively.

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What can I do with it?

Script Applications
OpenOffice.org, Blender, Emacs, Vim, GIMP, MS Office/Outlook using pywin32, Subversion, rpmlib

Write Desktop Apps
wxWidgets/wxPython, Tkinter, PyOpenGL, PyQT, PyGTK, PyObjC for Cocoa apps under Mac OS X.

Serve Web Pages
Zope, Twisted, Django, TurboGears, Quixote, mod_python

Read and Write XML
expat, sax2, ElementTree

Write and Read PDFs
ReportLab

Write Games
PyGame, SDL, Blender, “Freedom Force”, “ToonTown”, “EveOnline”, “Blade of Darkness”, “Cars with Guns”, “Frequency (PS2)”, MindLathe (AI middleware)

Access Relational DBs
PostgreSQL, MySQL, Oracle, Informix, IBM DB/2, ODBC, JDBC

Access Object DBs
Zope Object Database (ZODB), Durus, Matisse

Visualize Scientific Data
MayaVi, PyMOL, VPython, DISLIN

Simulate Scientific Processes
Molecular Modeling Toolkit (MMTK), ScientificPython

How about an Integrated Development Environment?

Python has a rich set of graphical IDEs, both free and commercial. Among them are Eclipse, CodeForge, DrPython, Komodo, PythonCard, Wing IDE, and you can read the complete list at http://wiki.python.org/moin/IntegratedDevelopmentEnvironments.

But is it any fun?

YES!

Where can I learn more?

The center of the active Python community is at the following URL where you can find downloadable installs,tutorials, book lists, jobs and mailing lists:
http://www.python.org

Never programmed before? Python is **easy to learn** and **a good first language**. Check out:
http://wiki.python.org/moin/BeginnersGuide/NonProgrammers
There are even **free, downloadable books** there, so the only investment you need to get started is a bit of time. Oh and did I say that Python is a blast to play around with?