

# OSPGLI

Open Source Purely Graphical Language Initiative

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[www.ospgli.org](http://www.ospgli.org)

# Contents

- History - why
- Prograph - what
- OSPGLI - who
- PPPy (my project) - how
- Status - when

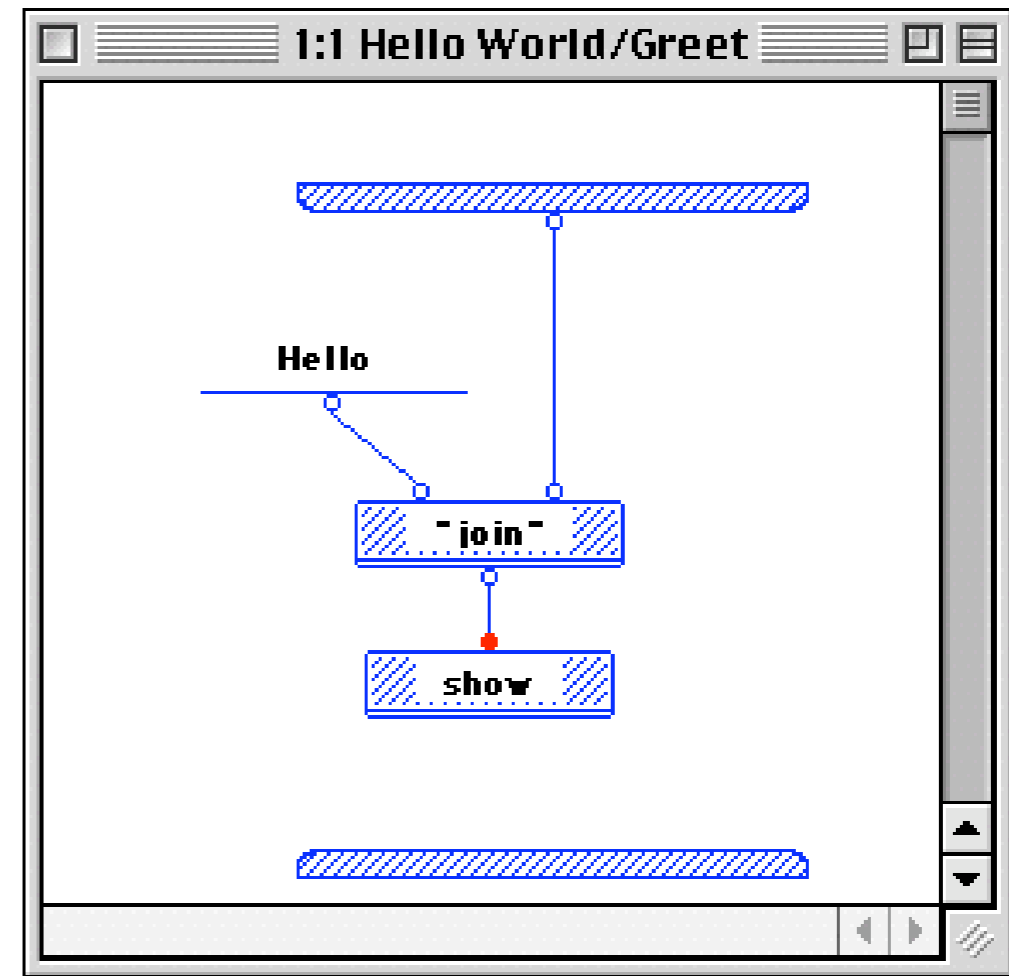
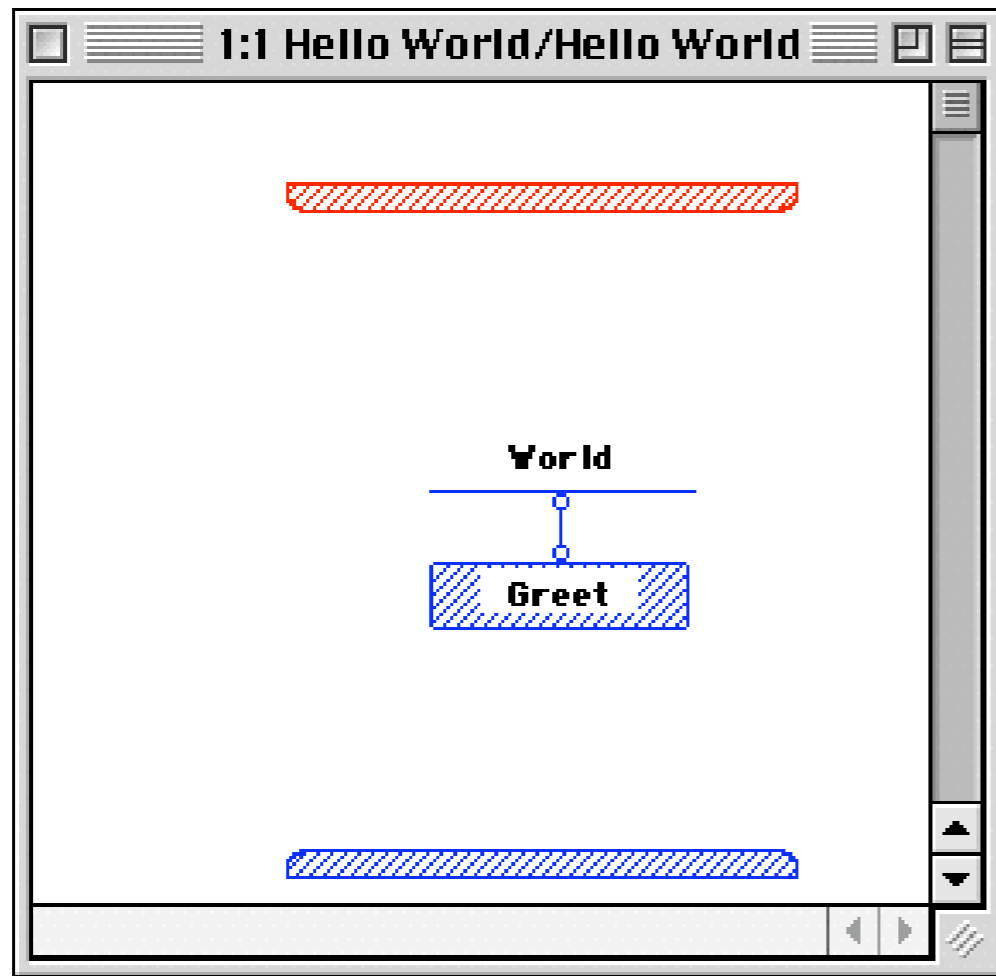
# History

- Inspired by Backus' FP
- Tomaz Pietrzkowski, Acadia University in Nova Scotia 1982
- Commercialized, TGS Systems, c. 1987
- Prograph International / Pictorius
- Open Prograph Initiative
- Prograph Carbon Tools

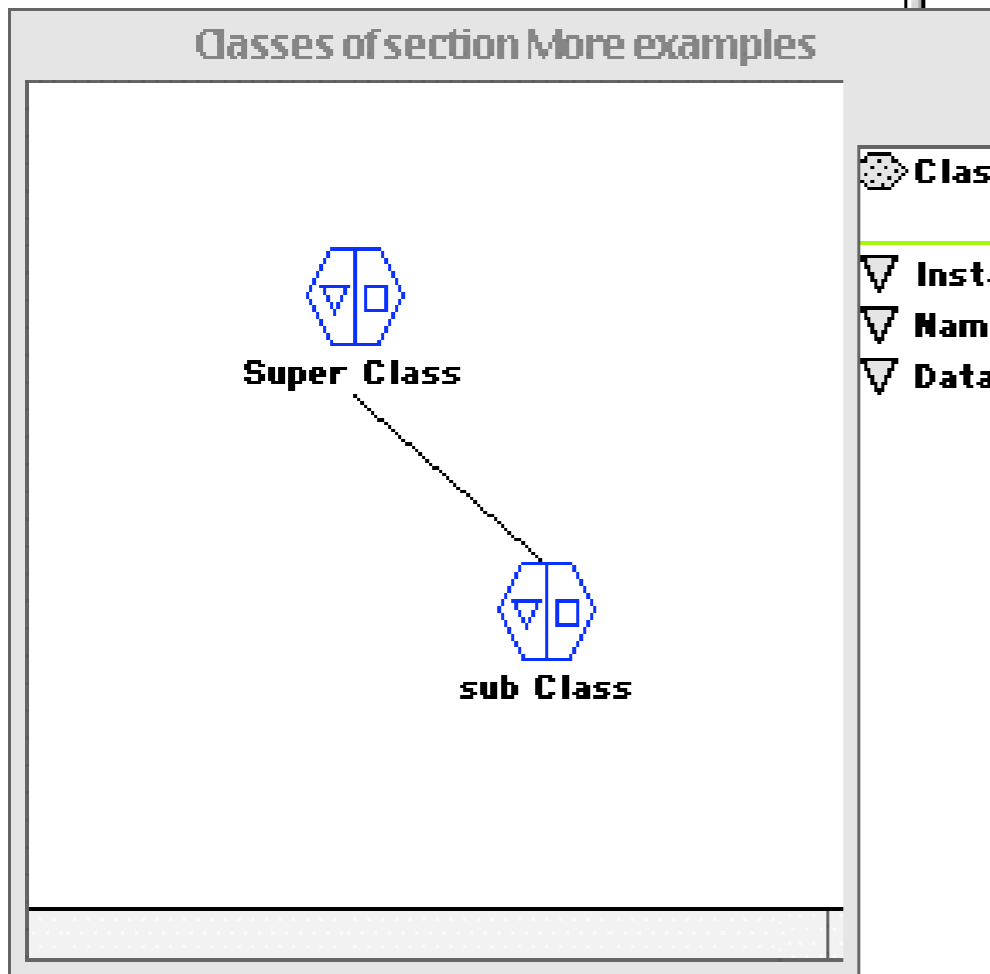
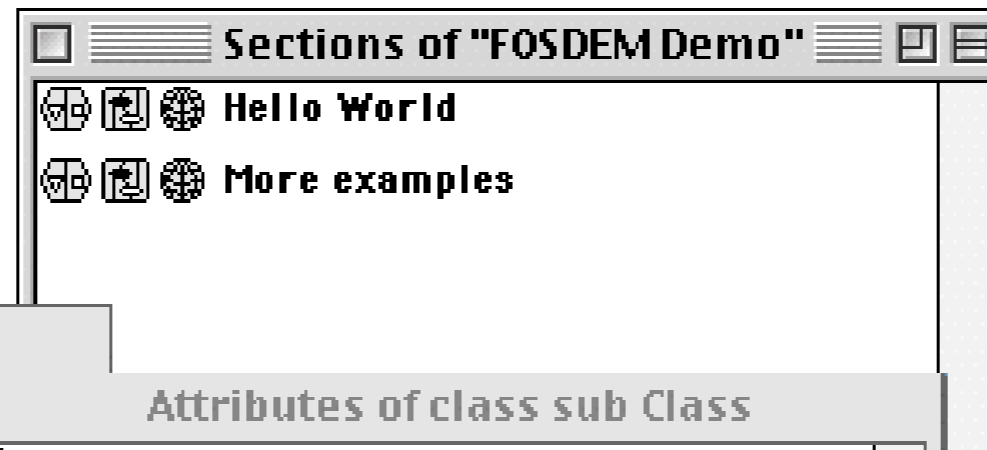
# Prograph

- Purely graphical
- Dataflow (modified)
- Object oriented
- Dynamic typing
- Persistent data
- Introspection
- Integrated IDE

# Prograph - Hello World



# Prograph - project



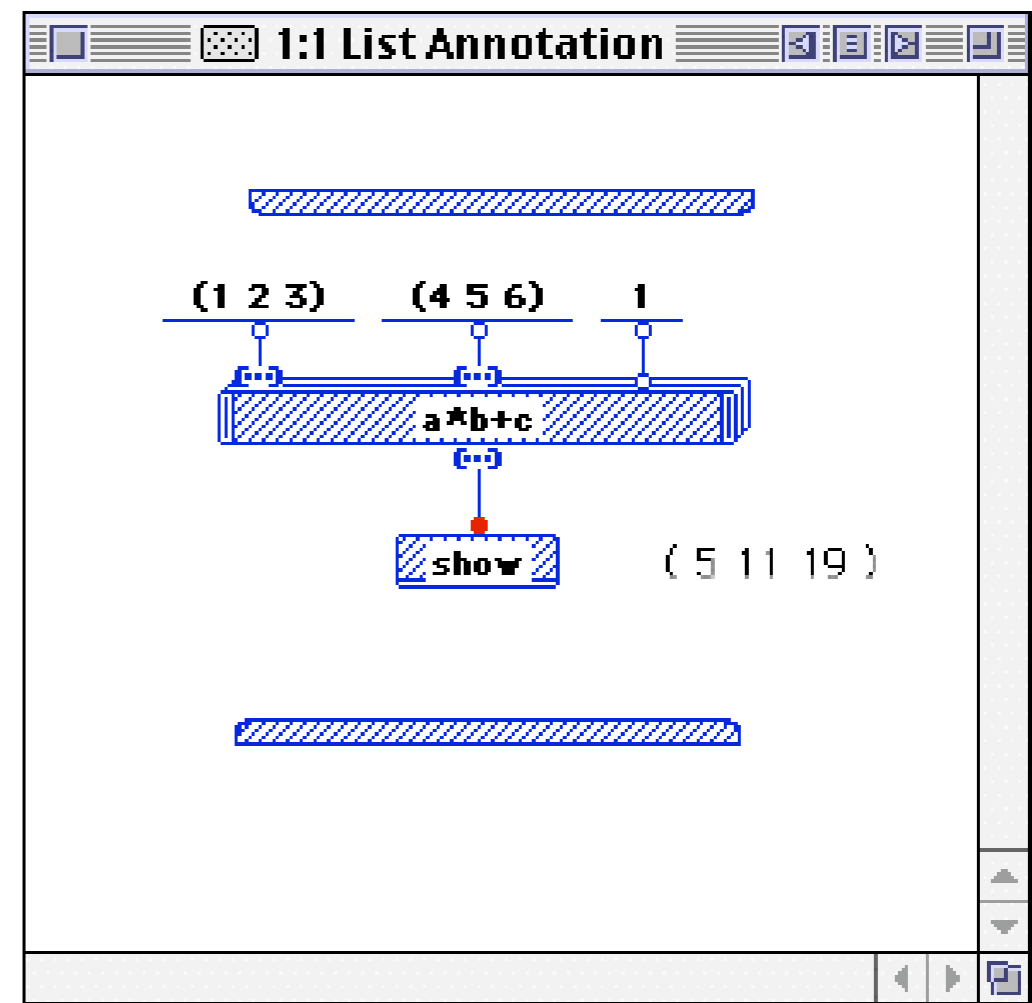
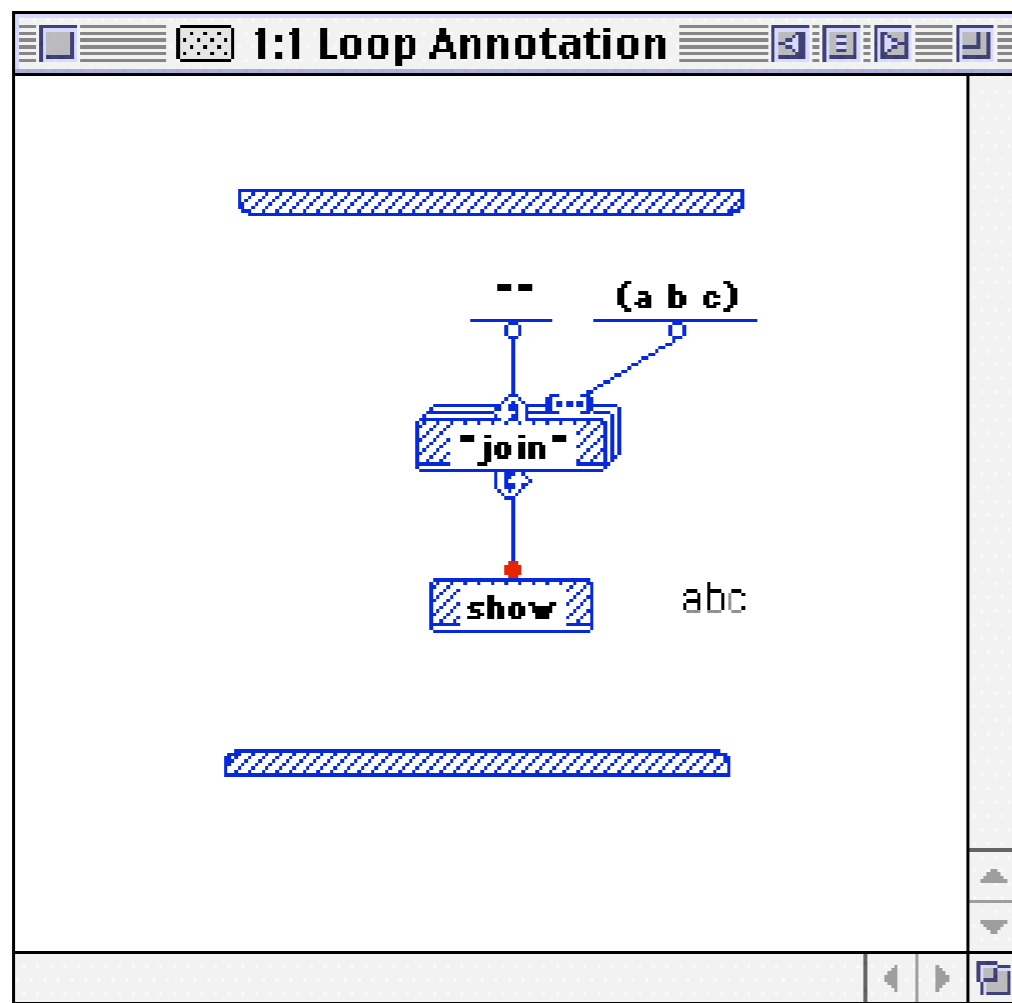
Attributes of class sub Class

Class Attribute	default value
Instance Attribute	value
Name	fred
Data	4.6692018

Persistents of section More examples

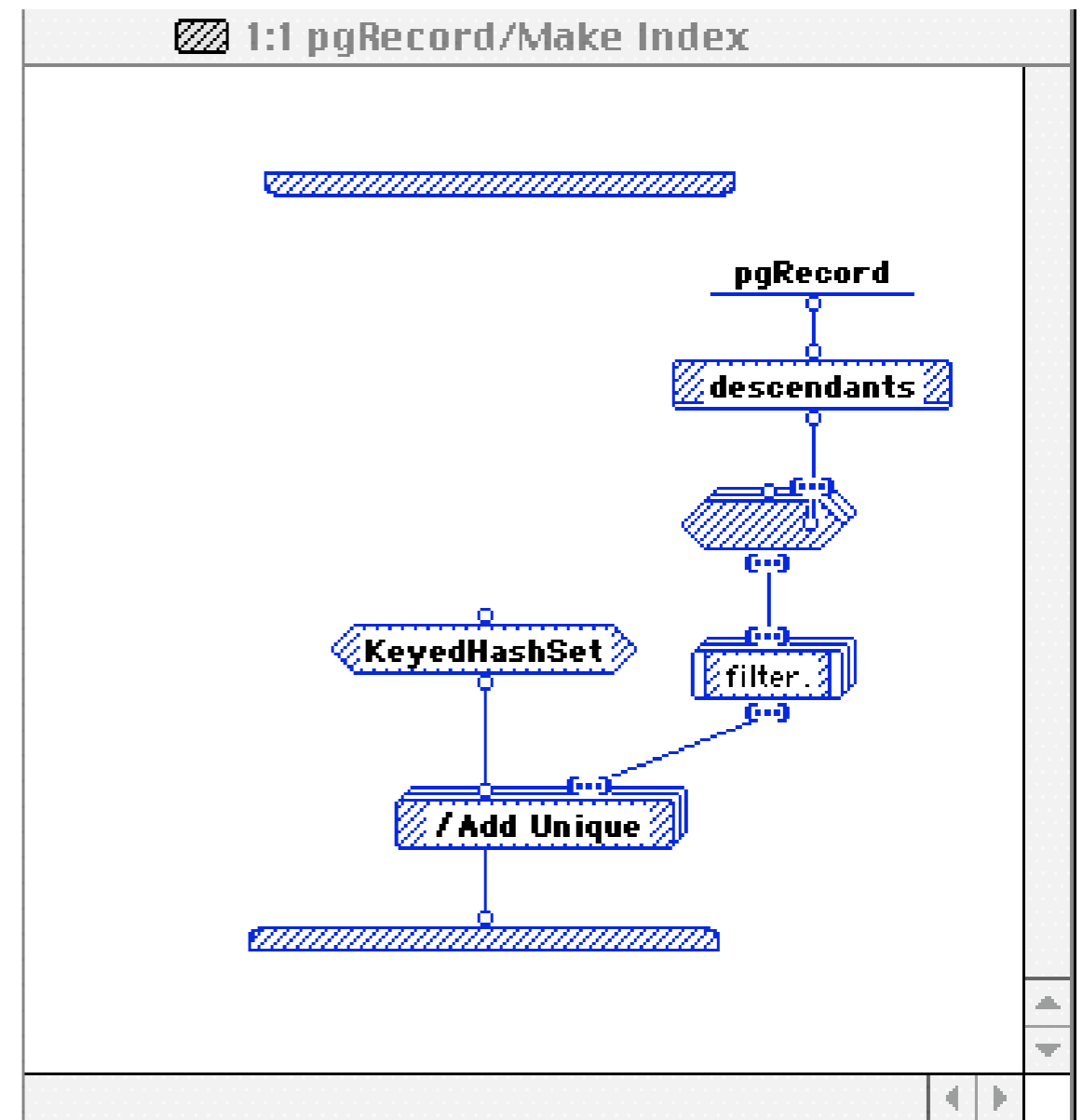
Saved data	etaionshrdu
Preferences	milk, no sugar

# Prograph - lists



# Prograph - example 2

- initialized data for a factory method
- builds index of relevant sub-classes
- introspection
- injection / dynamic coding
- list comprehension



# Prograph - attractions

- Edit the Abstract Syntax Tree - almost no syntax errors
- Easy navigation
- Re-factoring - easy to move code without introducing bugs
- Execution driven coding - code what you need when you need it
- No unnecessary serialization - potential for running on multiprocessors

# Prograph - interpreter

- Can be run at any time
- Integrated debugging
- Can examine data on any visible link
- Can modify data on any visible link
- Can modify any aspect of program
- Offers to create missing items

# OSPGI

- Diverse collection of enthusiasts
- Reacting against proprietary restrictions
- Trying to pull in the same direction
- Several personal projects

# OSPGI projects

- Phoenix (Mac / Cocoa))
- Visual Developer (WinXP / C++)
- PPPy (Mac Classic -> Python / wx)

# PPPy

- My project
- Bootstrap a new implementation of a Prograph-like language
- Written using Prograph
- IDE and interpreter
- Compiles to Python

# PPPy

- Clarity before efficiency
- Compatibility - read / write Prograph files,  
read / write PGXML
- Basis for further work

# PPPy - Python

- Need a fully dynamic runtime system
- Simple clear basics
- Plenty of access “under the hood”
- Active community
- PyPy / Parrot

# PPPy - Python

- Name mangling
- Introduction of variables
- Different namespaces
- Data creation
- Alias resolution
- Failure / exceptions

# PPPy - sample

```
from pgLib import *
import struct
import types
import string
#Section Untitled
def Make__Index():
    a4 = pgDescendants('pgRecord')
    a4_iter = iter(a4)
    a5 = pgList()
    _loop1 = True
    try:
        while(_loop1):
            a4_el = a4_iter.next()
            a5_el = pgDict[pgMungeName(a4_el)](pgNone())
            a5.add(a5_el)
    except StopIteration: pass
    a5_iter = iter(a5)
    a6 = pgList()
    _loop2 = True
    try:
        while(_loop2):
            a5_el = a5_iter.next()
```

```
        #Local: filter.
        try:
            a8 = a5_el.Get__Key()
            if a8 == '': raise signalNext
            a6_el = a5_el
        except signalNext:
            a6_el = pgNone()
            a6.add(a6_el)
    except StopIteration: pass
    a7 = KeyedHashSet(pgNone() )
    a6_iter = iter(a6)
    _loop3 = True
    try:
        while(_loop3):
            a6_el = a6_iter.next()
            a7.Add__Unique(a6_el)
    except StopIteration: pass
    return a7
def _CreateModuleData():
    pass
pgRegister(__name__)
```

# PPPy - Status

- Still Mac only
- Compiler bootstrapped a year ago
- Need to port new IDE to wxWidgets
- Python+wx = cross-platform
- Help needed

# Links

- [sourceforge.net/projects/exegraph](https://sourceforge.net/projects/exegraph)
- [exegraph.ospgli.org](https://exegraph.ospgli.org)
- [www.ospgli.org/wiki](https://www.ospgli.org/wiki)
- [www.ospgli.org/wiki/index.php?pagename=PPPy](https://www.ospgli.org/wiki/index.php?pagename=PPPy)
- AreaV1 mailing list (private, see ospgli site)
- [groups.yahoo.com/group/ospgli](https://groups.yahoo.com/group/ospgli)
- [www.andescotia.com/](https://www.andescotia.com/)