

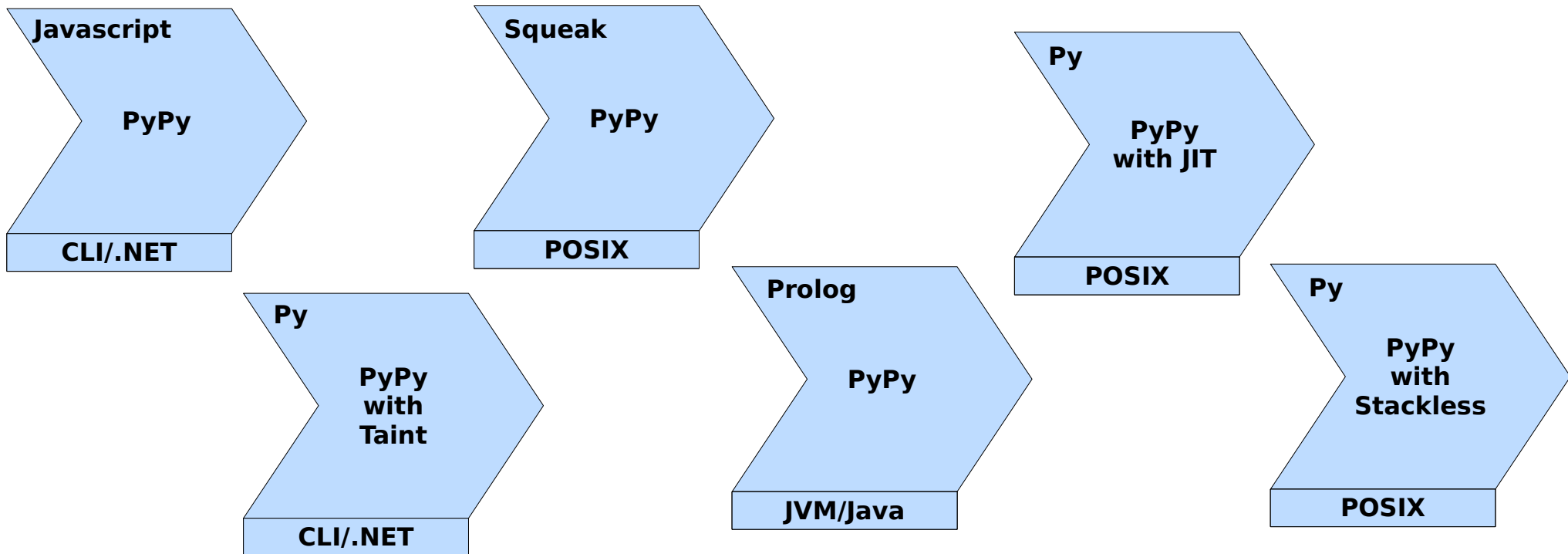
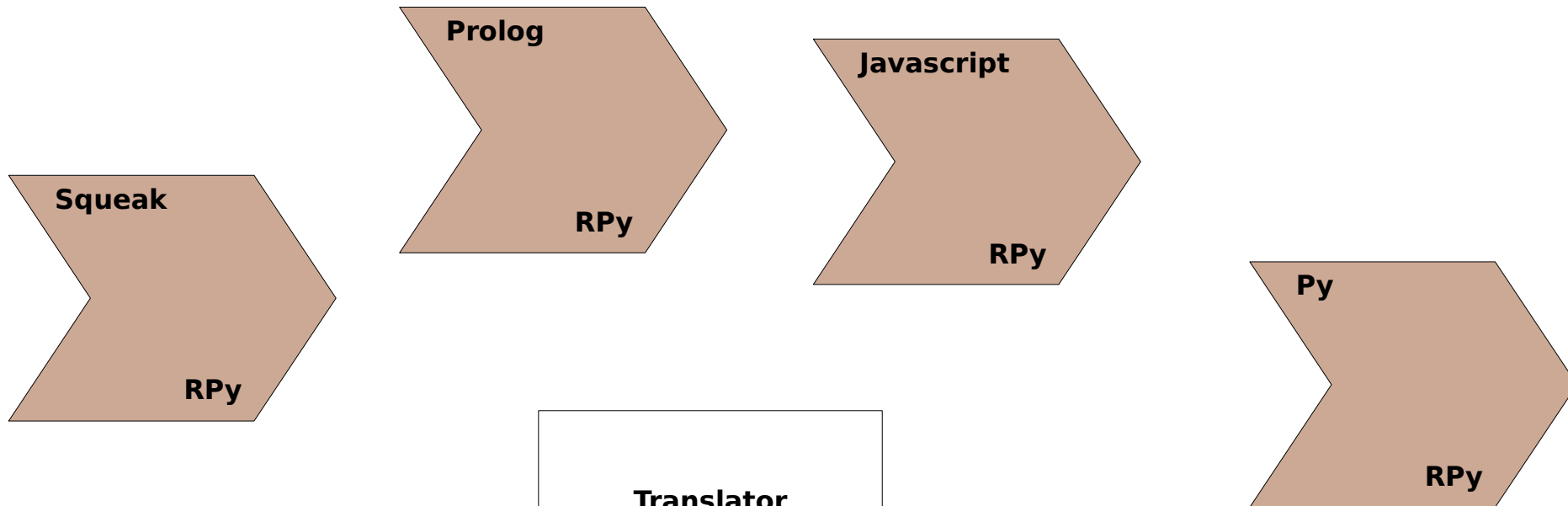
PyPy

For the rest of us

A gentle introduction for people who want to get the big picture

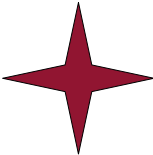
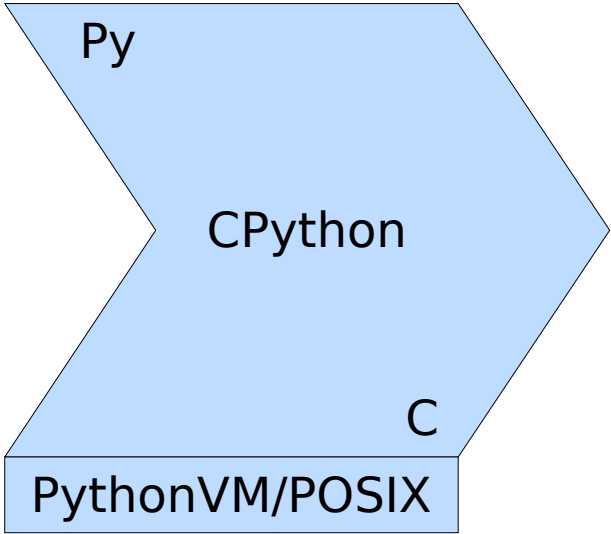
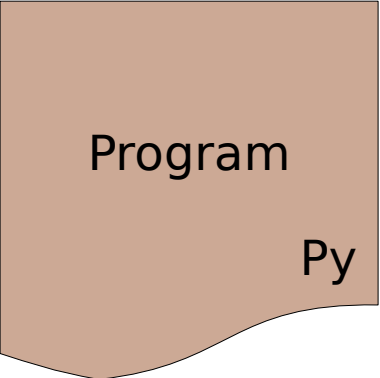
Jacob Hallén

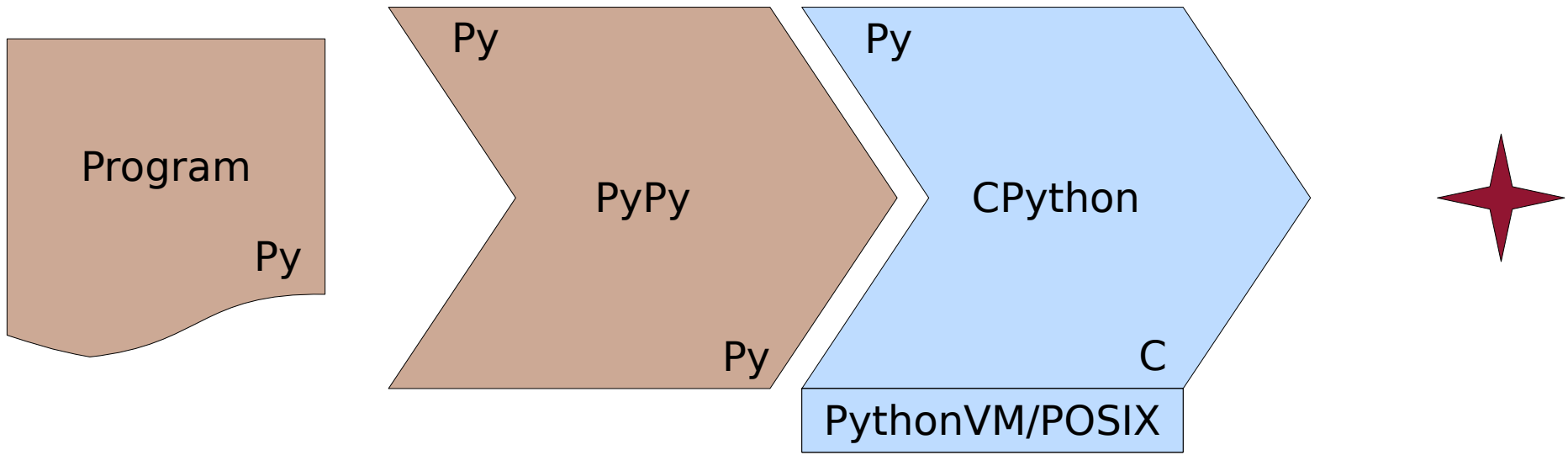
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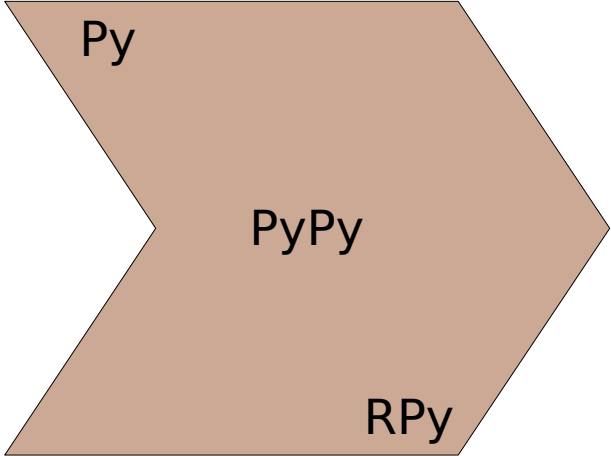




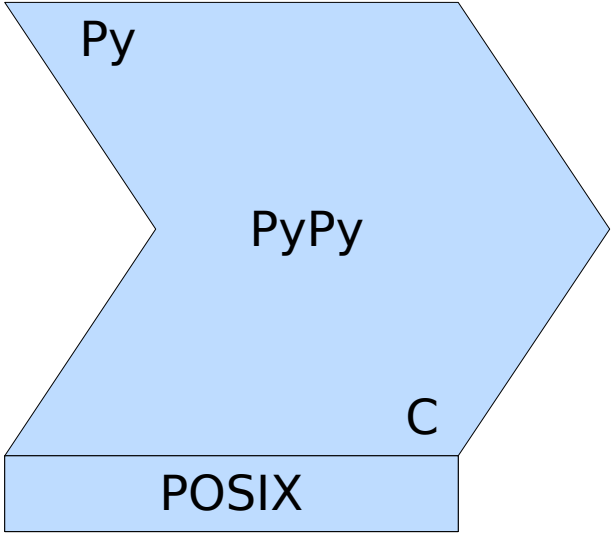
PyPy
Architecture

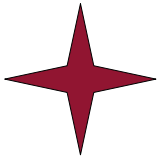
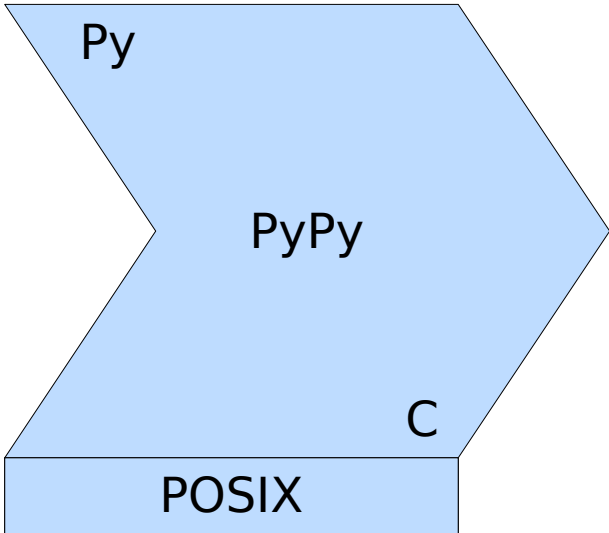
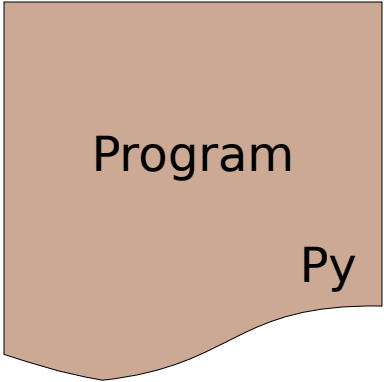


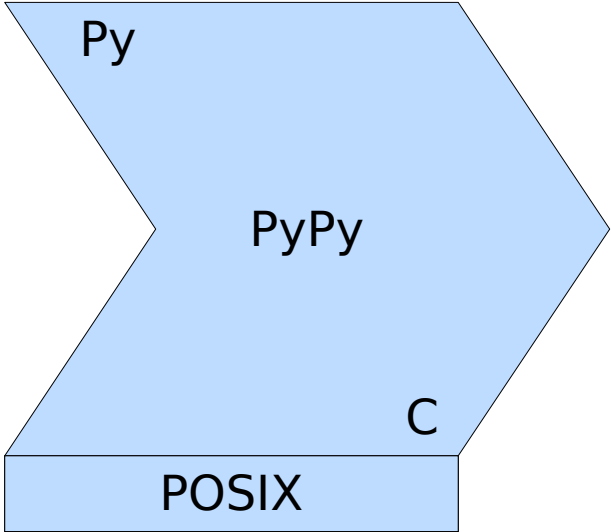
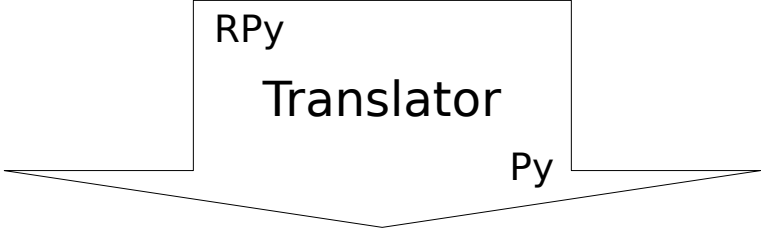
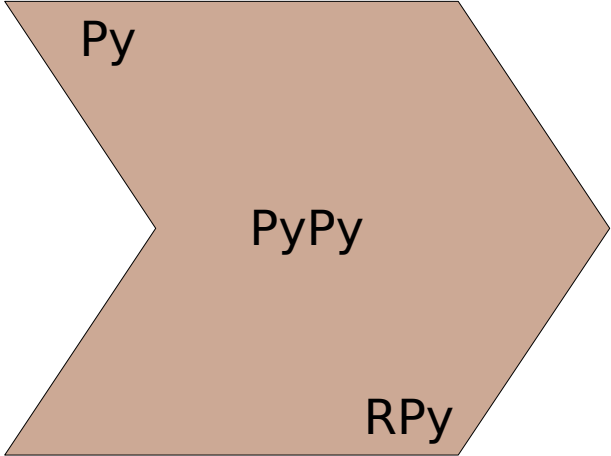


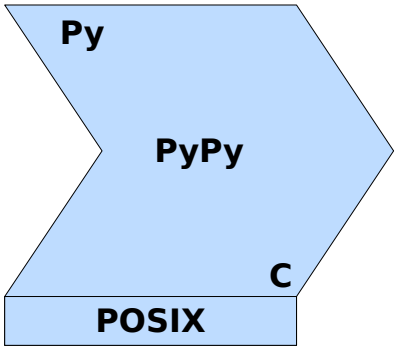
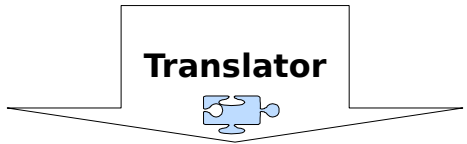
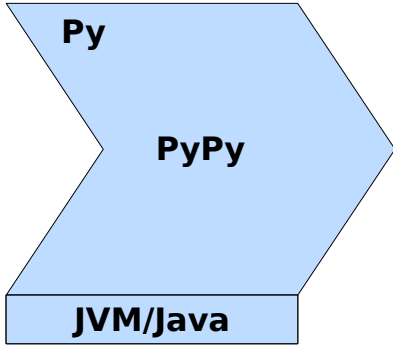
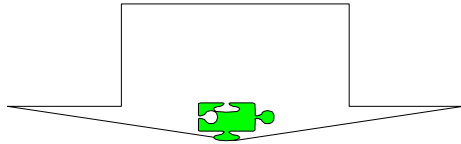
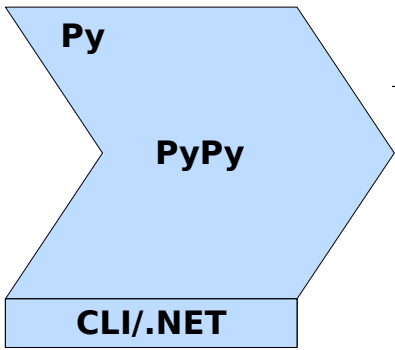
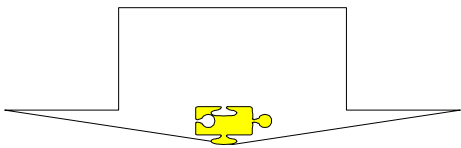
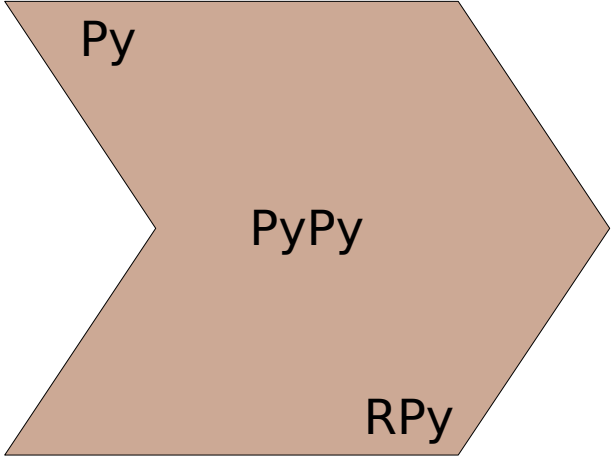


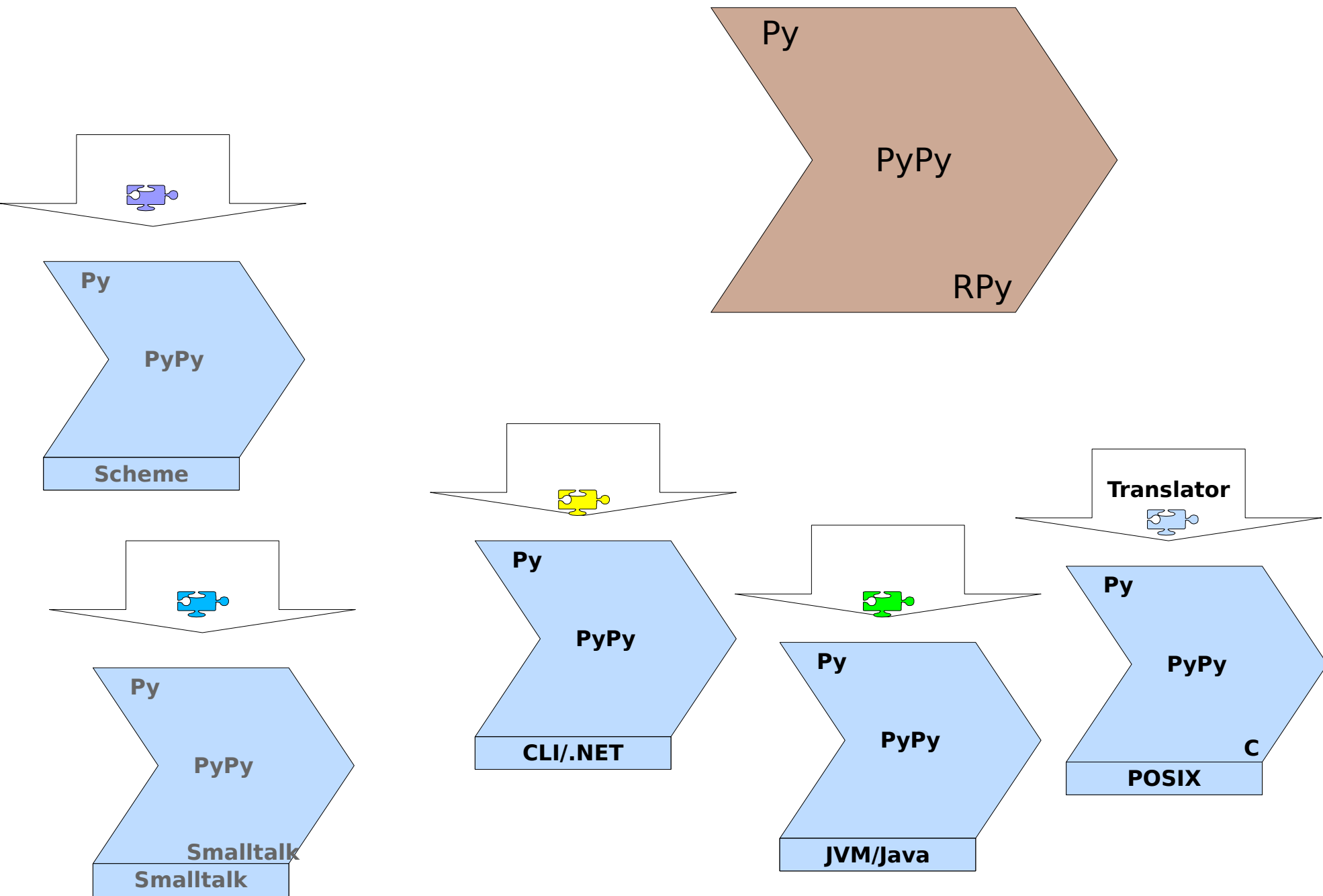
Translation

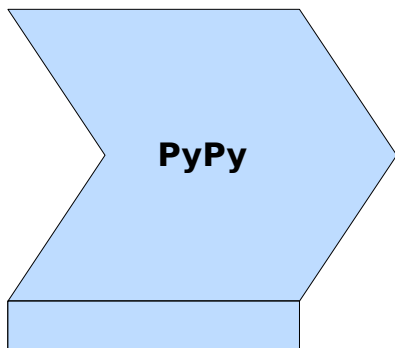
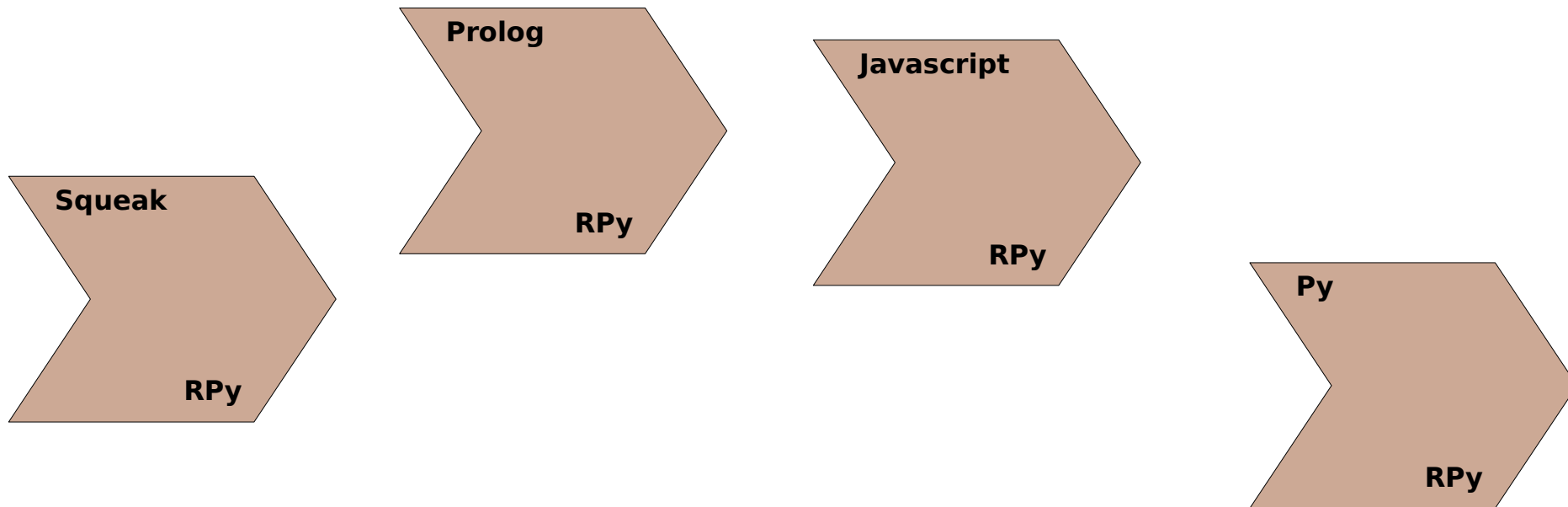


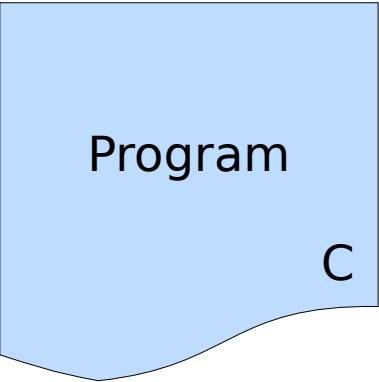
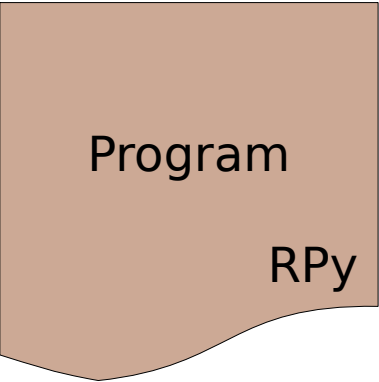


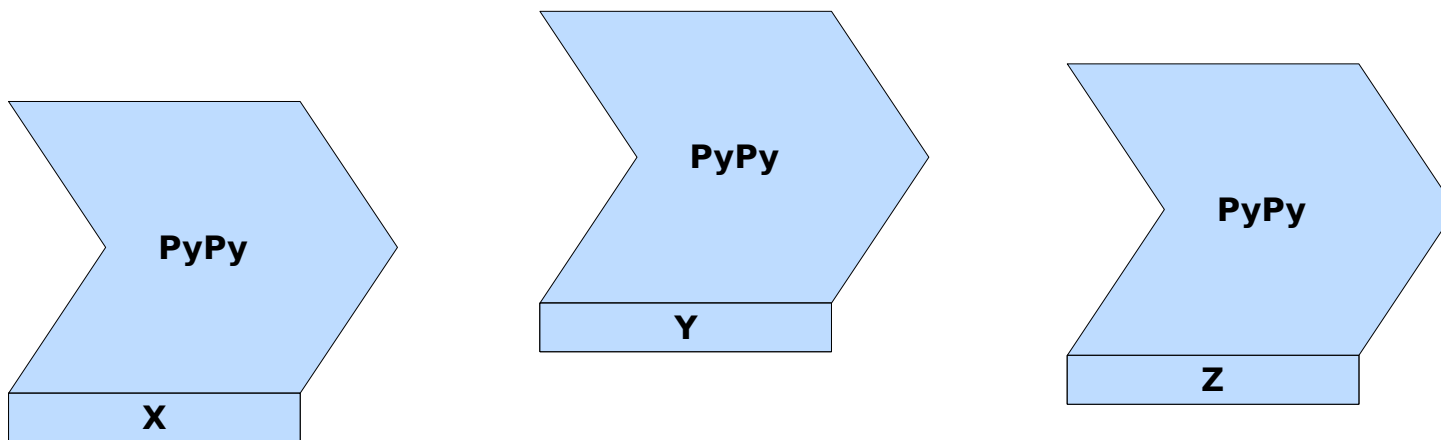
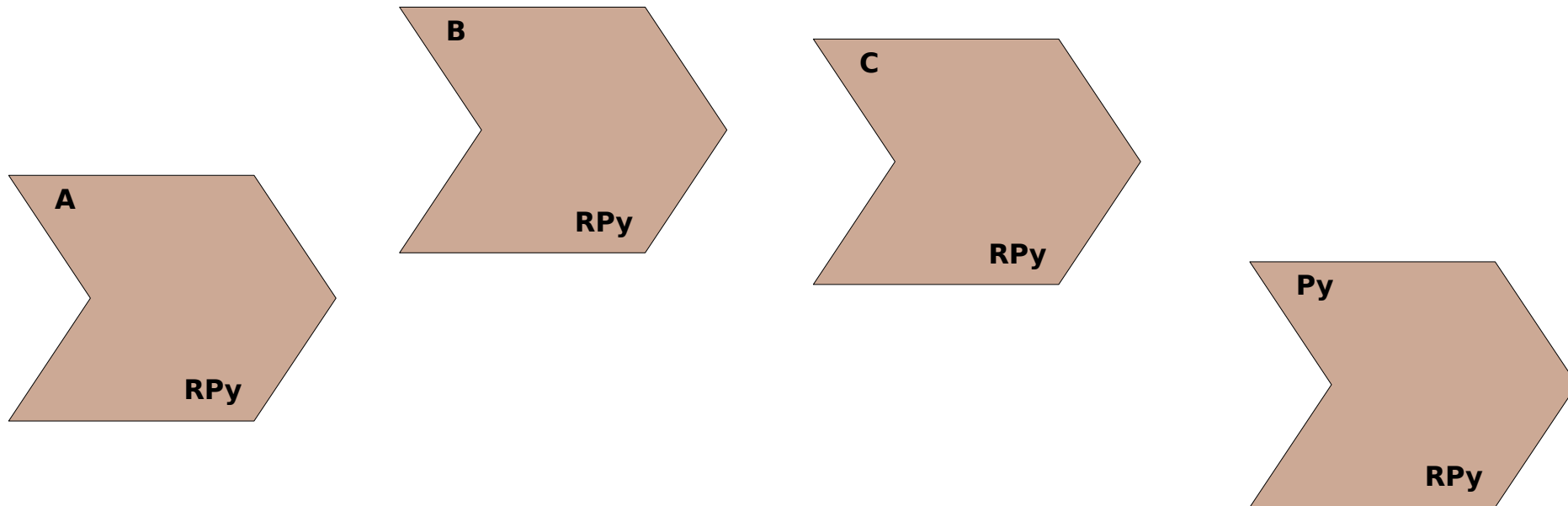








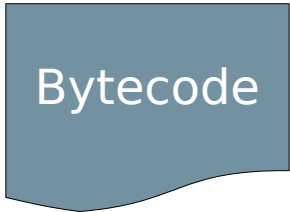
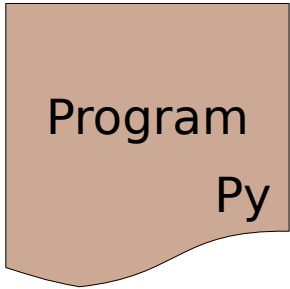




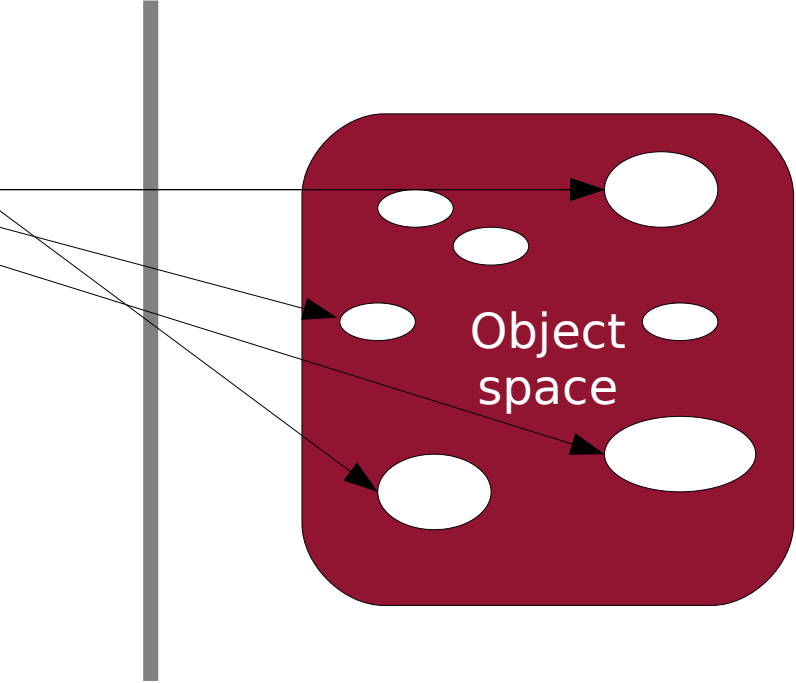
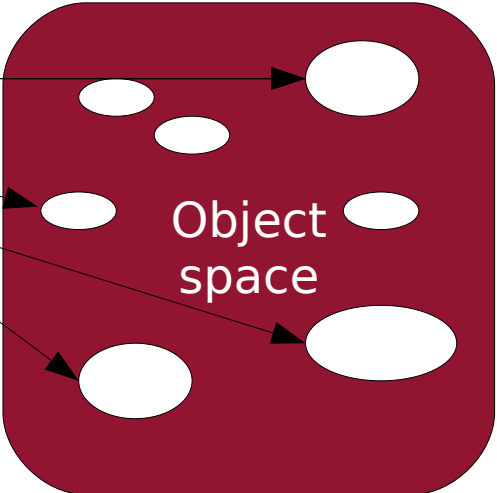
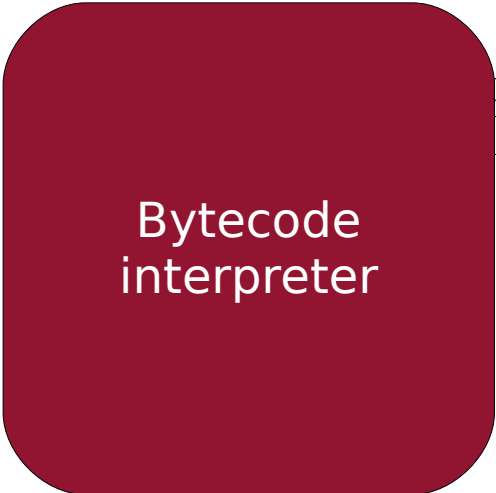
Py

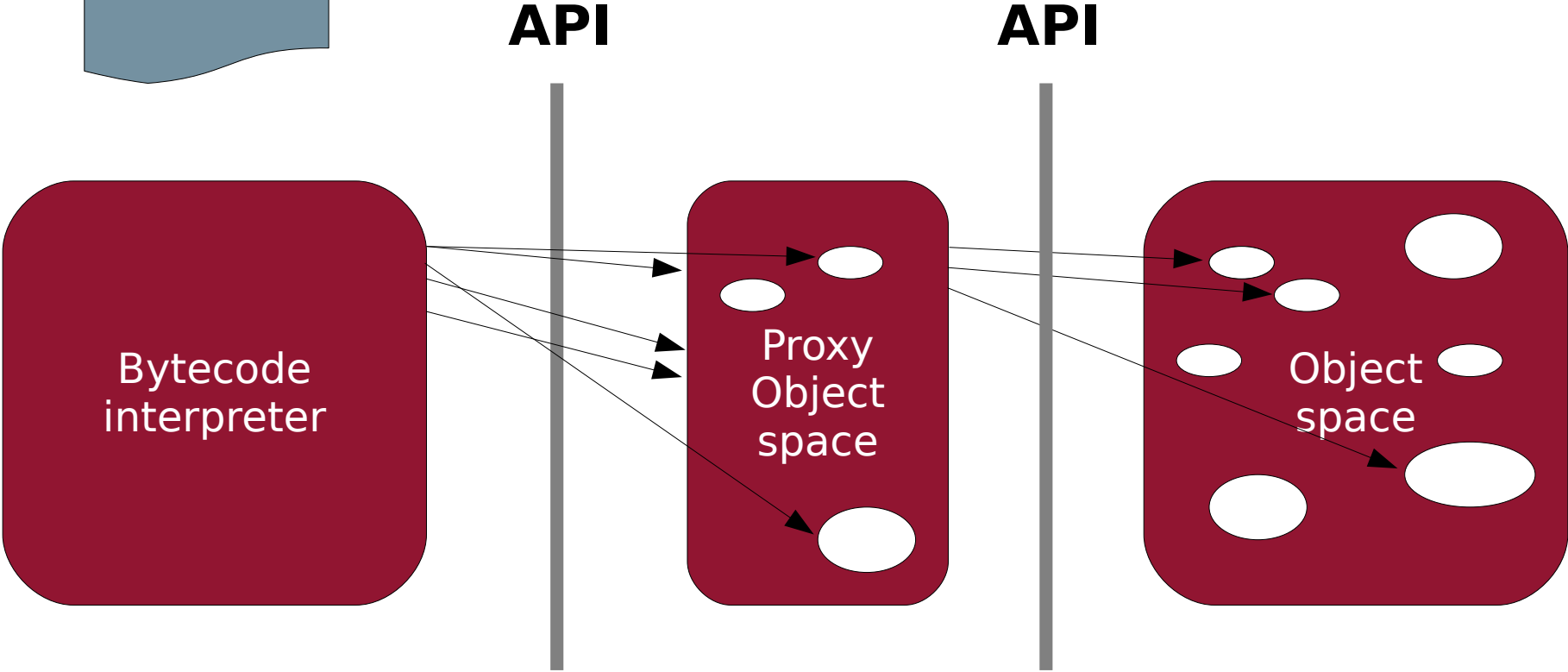
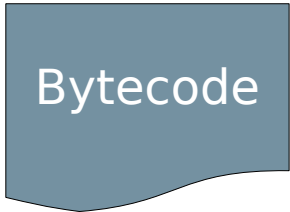
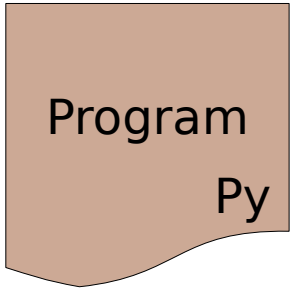
**A look inside
the interpreter**

RPy



API

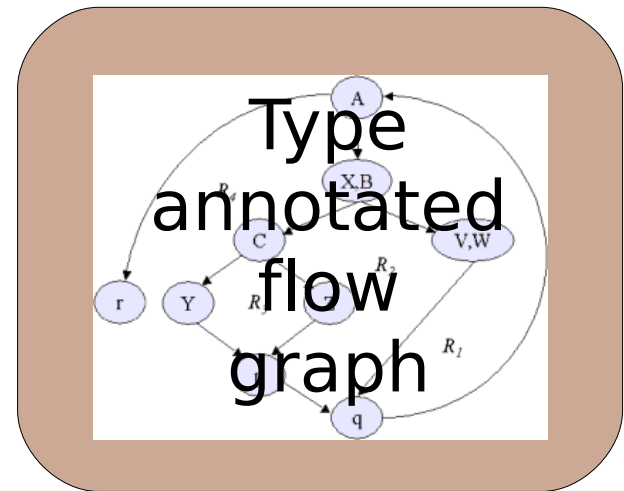
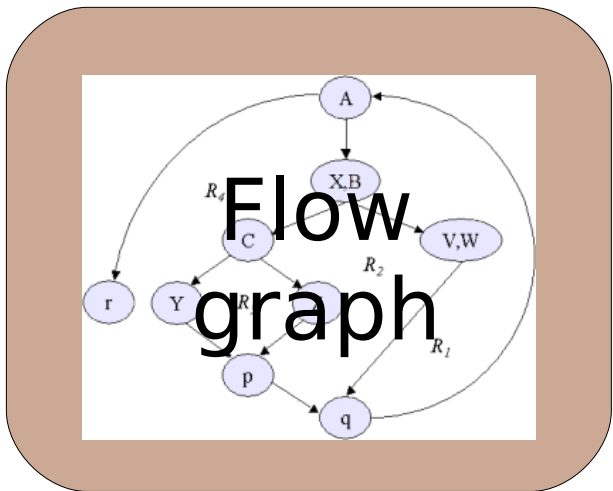
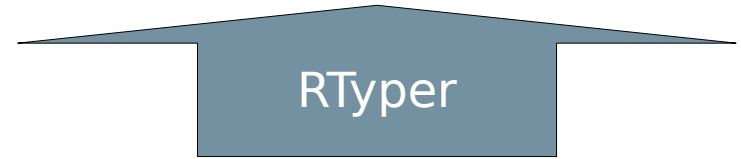
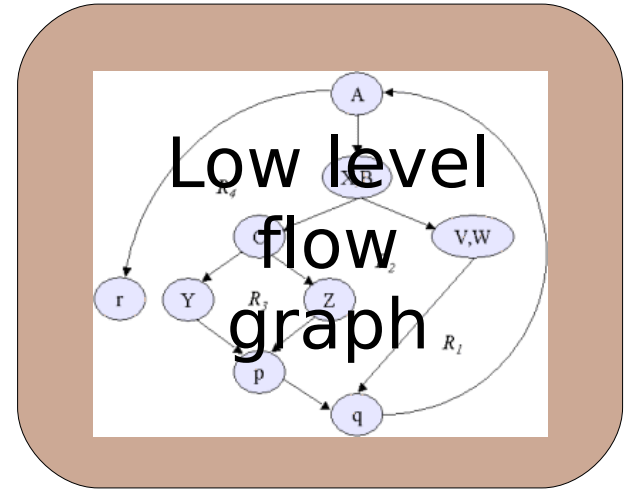
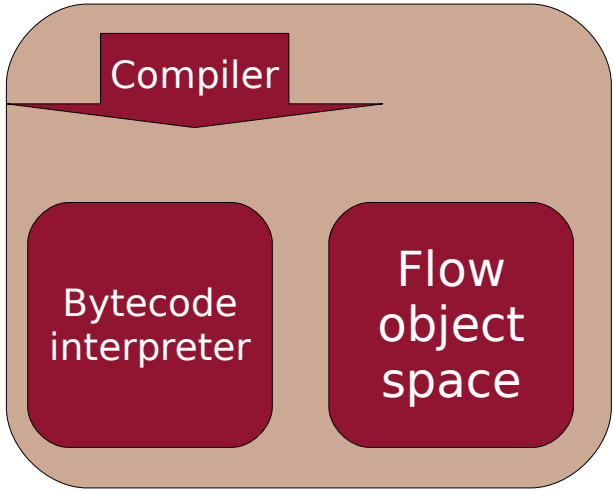


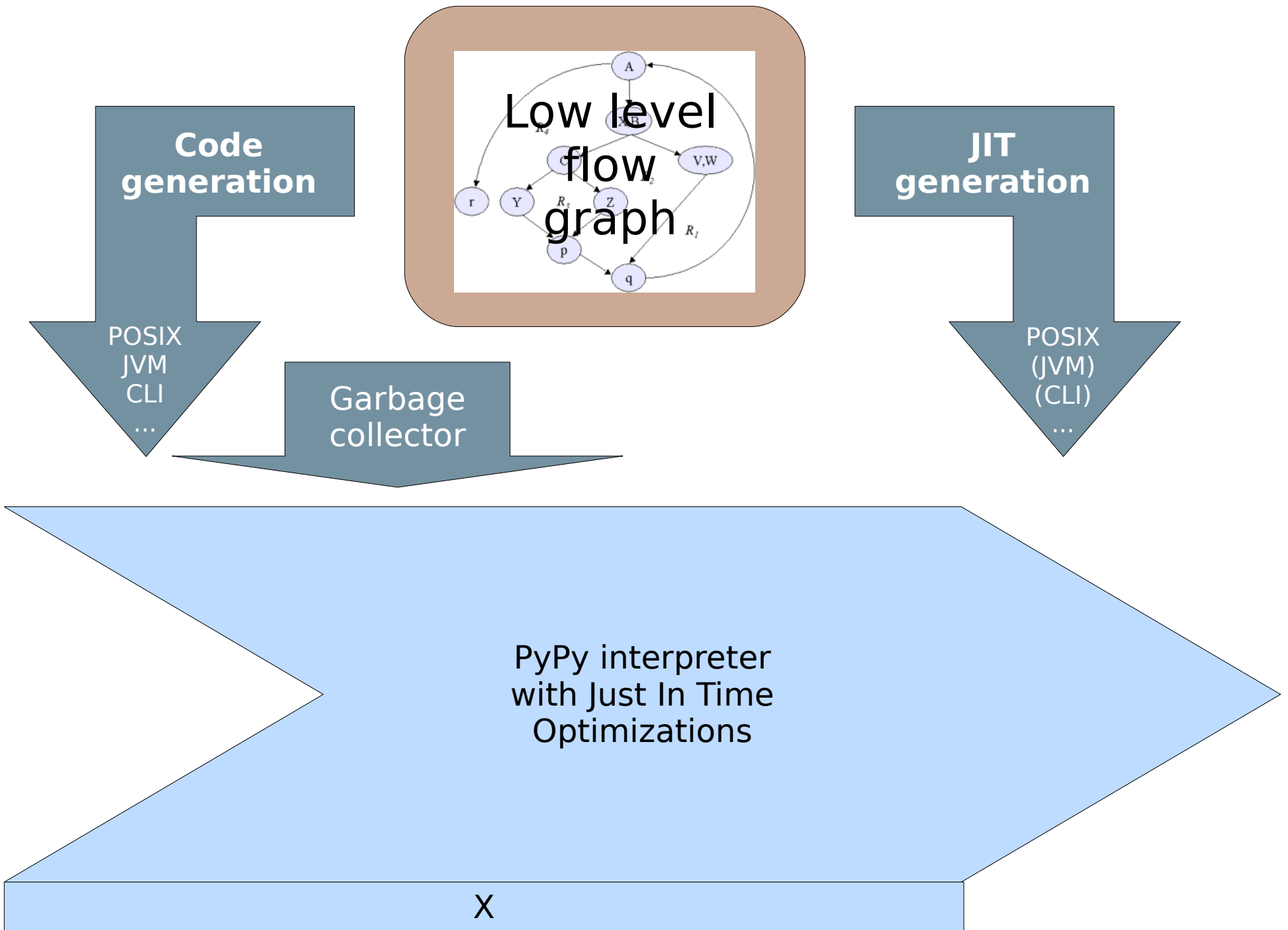


Py

A look inside
the translator

RPy





Where are we now?

- Very compliant implementation of Python
- Reasonably fast
- Interfacing to C (but not supporting all tools)
- Still lacking a few standard libraries
- No production ready JIT

A viable replacement for CPython

- Support ctypes – done
- Hand optimizations – ongoing
- Multi-platform support - done
 - Linux ia32
 - Mac OS/X ia32
 - Mac OS/X ppc
 - Windows ia32
 - Linux amd64 – recent addition

- Python 2.5 – **work in progress**
- Python 2.6/3.0 – **not started**
- Parser cleanup – **some effort**
- Separate compilation – **in progress**
- Port modules to rffi style – **done**
 - RPython foreign function interface
- Move modules from app level to interpreter level – **far advanced**

- Write new modules – not started
- Refactor the JIT – far advanced
- Add optimizations to the JIT – not started
- Support Swig or Boost – not started
- Providing the CPython C API – abandoned
- Third party module support – in progress
 - Django, Twisted, Pyglet, pysqlite...

- Support a GUI – **not started**
- There are other activities in PyPy
 - JIT for CLI/.NET and JVM
 - Squeak
 - Javascript
 - Gameboy emulator
- Not covered here

When?

- Porting, verification – **NOW!**
- Production use – **6-12 months**