PyPy 2016

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Scipy Israel 2016

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Python means four things:

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- A syntax or six *(2 * 3 = 6)*
- An interpreter to run code written in the syntax
- A set of standard libraries shipped with the interpreter
- A vibrant number of communities that share code

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Techniques to achieve performant Python

- Write better code
    - string concatenation
    - attribute lookup

- Rewrite your code in C

- Rewrite your code in Cython

- Add accelators like Numba

- Use PyPy

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- It ships with the standard library
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- Compatible (mostly) via pip install
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Speed (Applause)
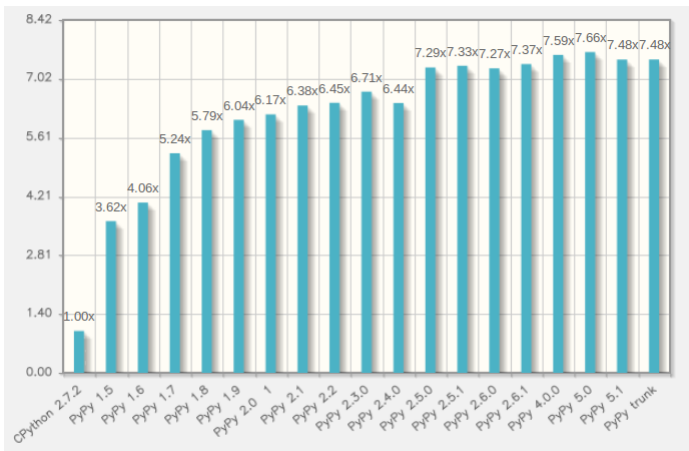
- Benchmarking, statistics, politics
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    - Convert sequences to arrays
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Prove It

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- Python and the community
- Third-party library support
- No easy packaging (like Winpython or Anaconda)
  - Opportunity???

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- CFFI is easy, just massage the headers and that's it
- Use CFFI to call python from C
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- https://bitbucket.org/pypy/numpy + pypy
- I have been working on it since 2011, together with many others
- Replaces ndarray, umath with builtin modules
- ~85% of the numpy tests are passing, on all platforms
- Most of numpy is there: object dtypes, ufuncs
- linalg, fft, random all via cffi
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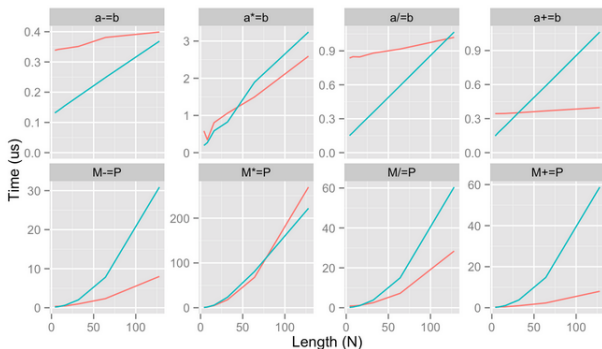- Should be as fast as Numpy, faster for smaller arrays

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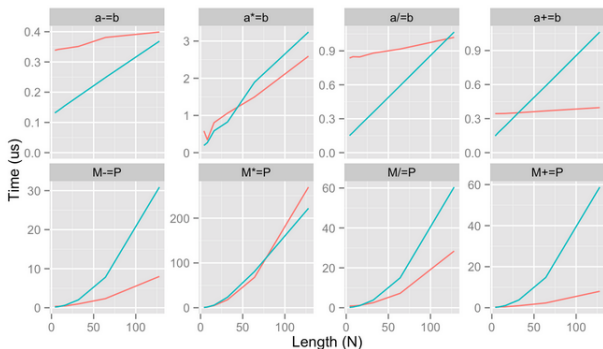
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