

The speed of PyPy

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Story about Python's speed



Speed of Python

- Python is slow

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Speed of Python

- Is Python really slow?

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- Sometimes

Speed of Python

- Is Python really slow?
- Sometimes
- Let's have a look at some examples

Nomenclature

- Python - a programming language
- CPython - main implementation of Python
- JVM - Java Virtual Machine - VM used to run Java, among others
- JIT - Just in time compiler
- Psyco - JIT for Python

Example run

- Float example, stolen from factor blog

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More about this example

	CPython	JVM	Psyco	PyPy
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- So, it's CPython that is slow on this particular benchmark
- Same example, using numpy and vectorization about 3x faster than JVM

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Python's speed

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- Better: “Why is Python hard to optimize?”

Python's speed

- Instead of: “Why is Python slow?”
- Better: “Why is Python hard to optimize?”
- Even better: “How are we going to fix it?”

Why is Python hard to optimize?

- Duck typing (dynamic dispatch)
- Frames
- Object encapsulation
- Dictionaries of instances

