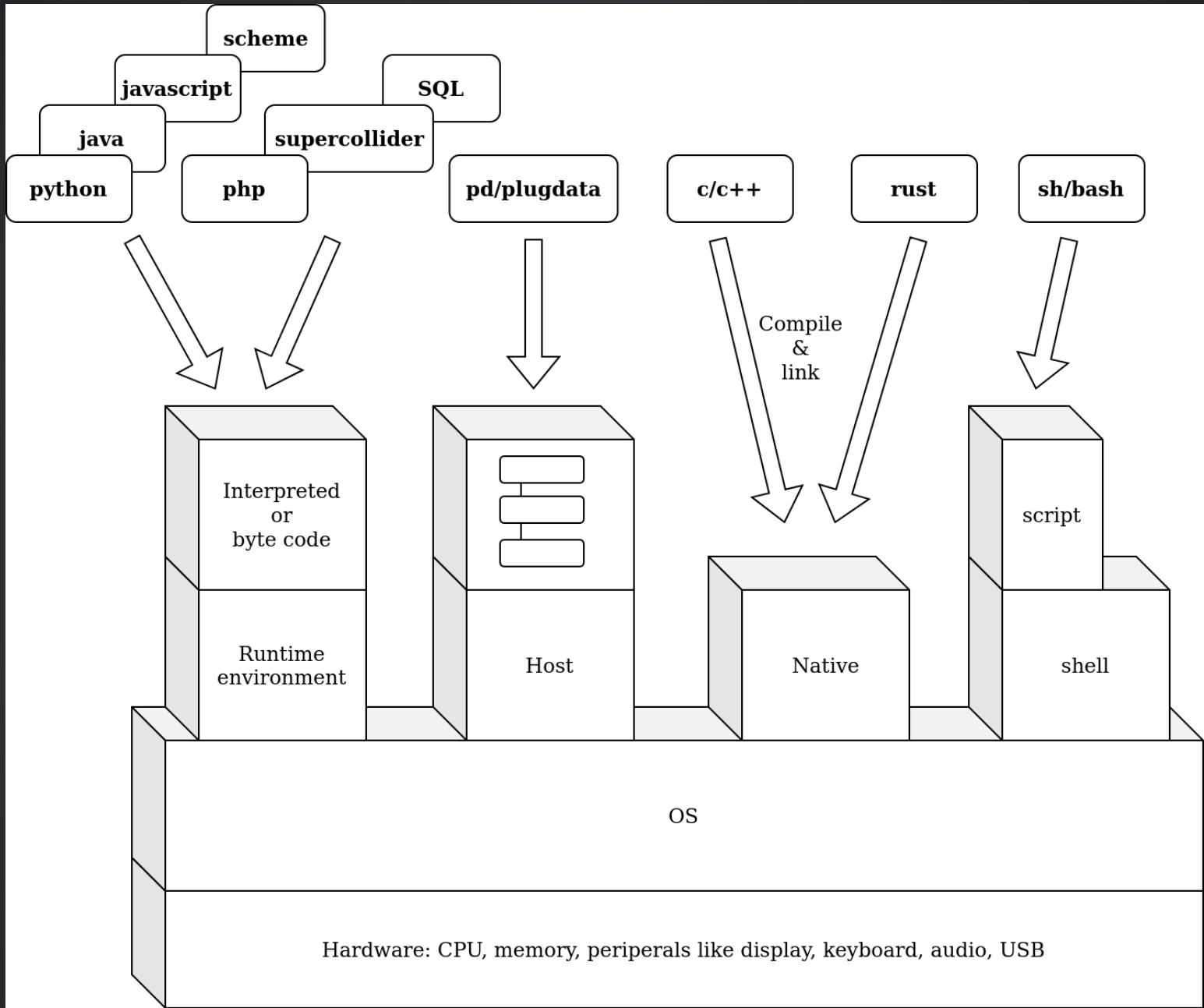


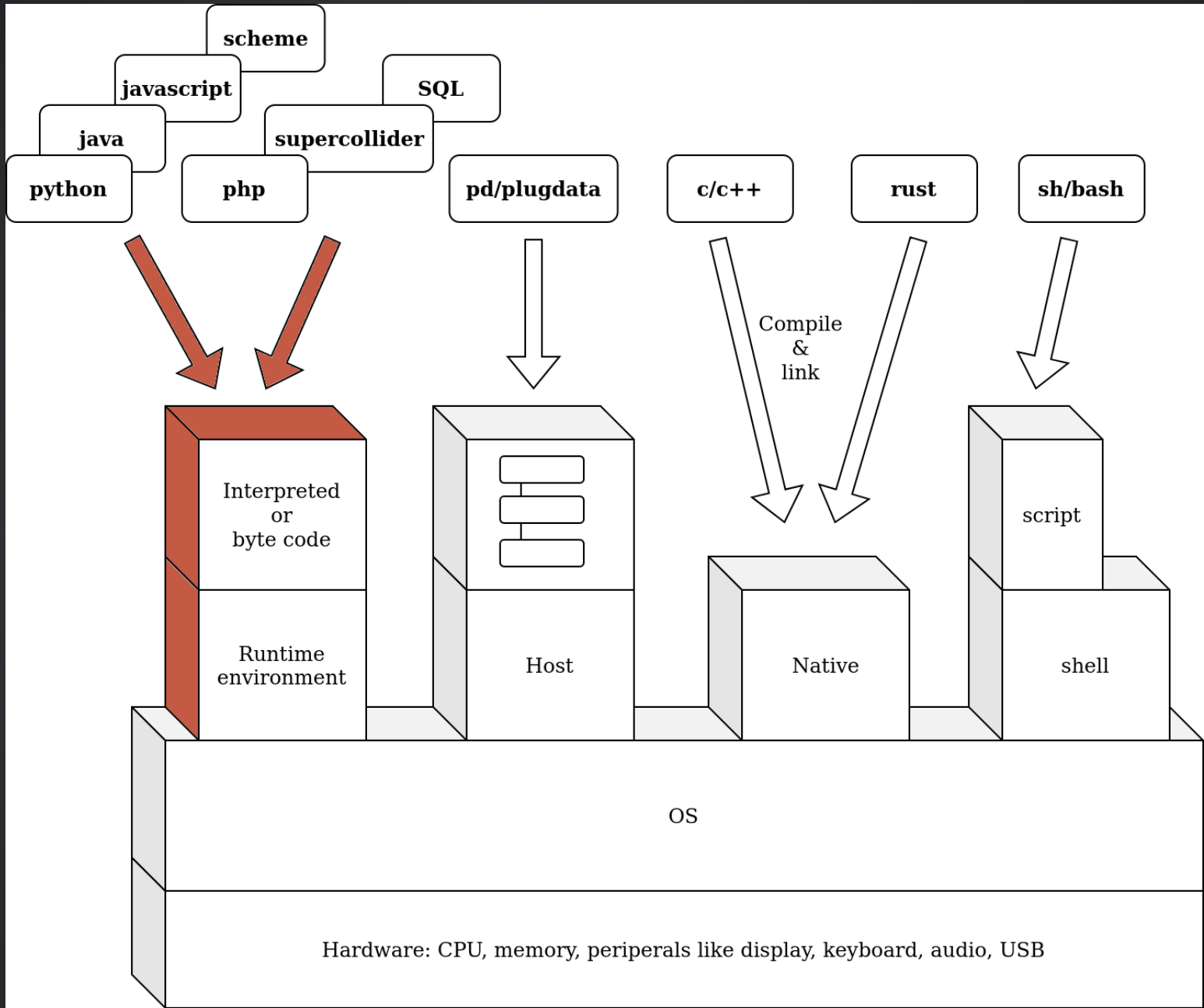
HELLO NLLGG

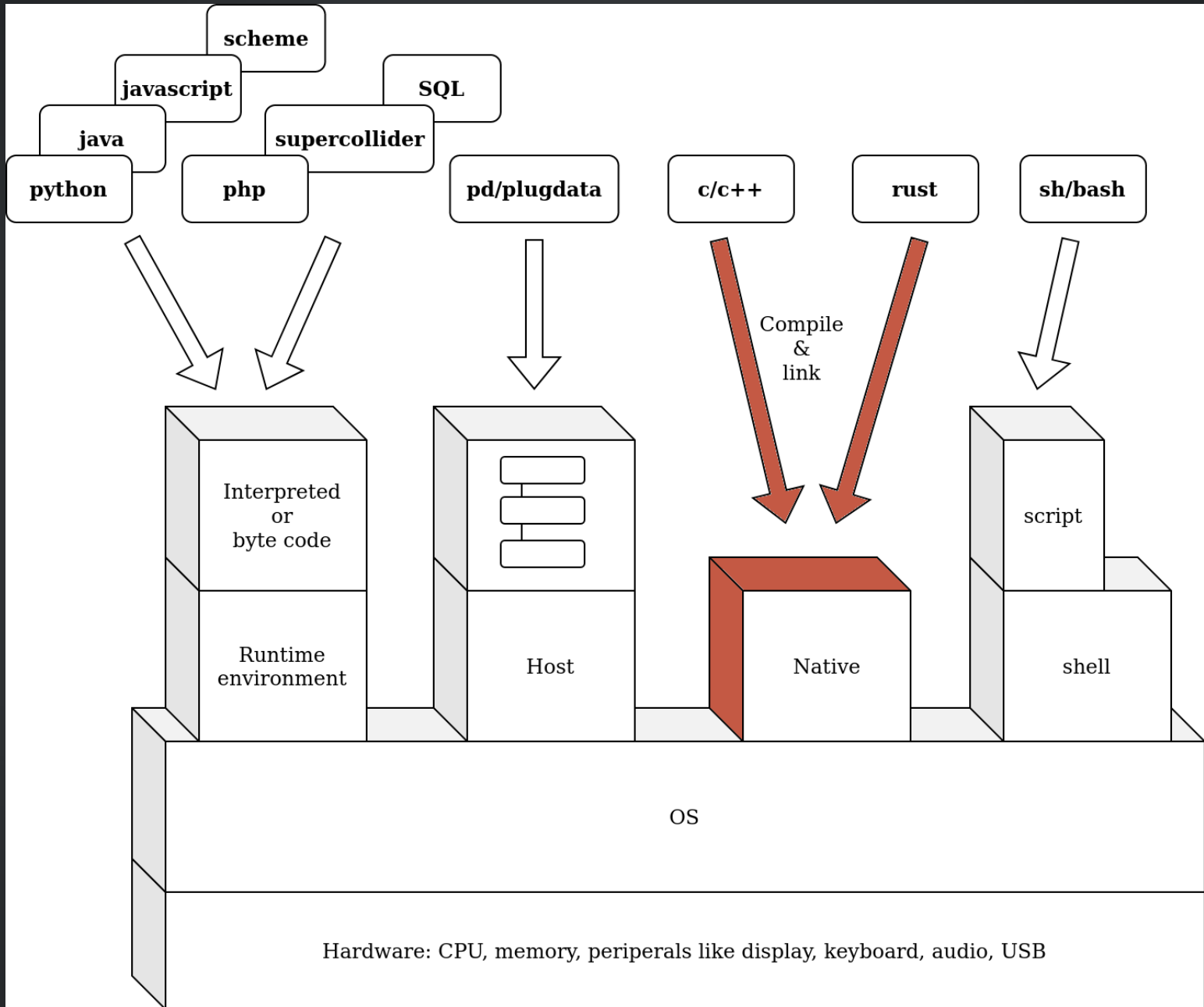
12:00 Python C/C++ bash Java PlugData Pure Data

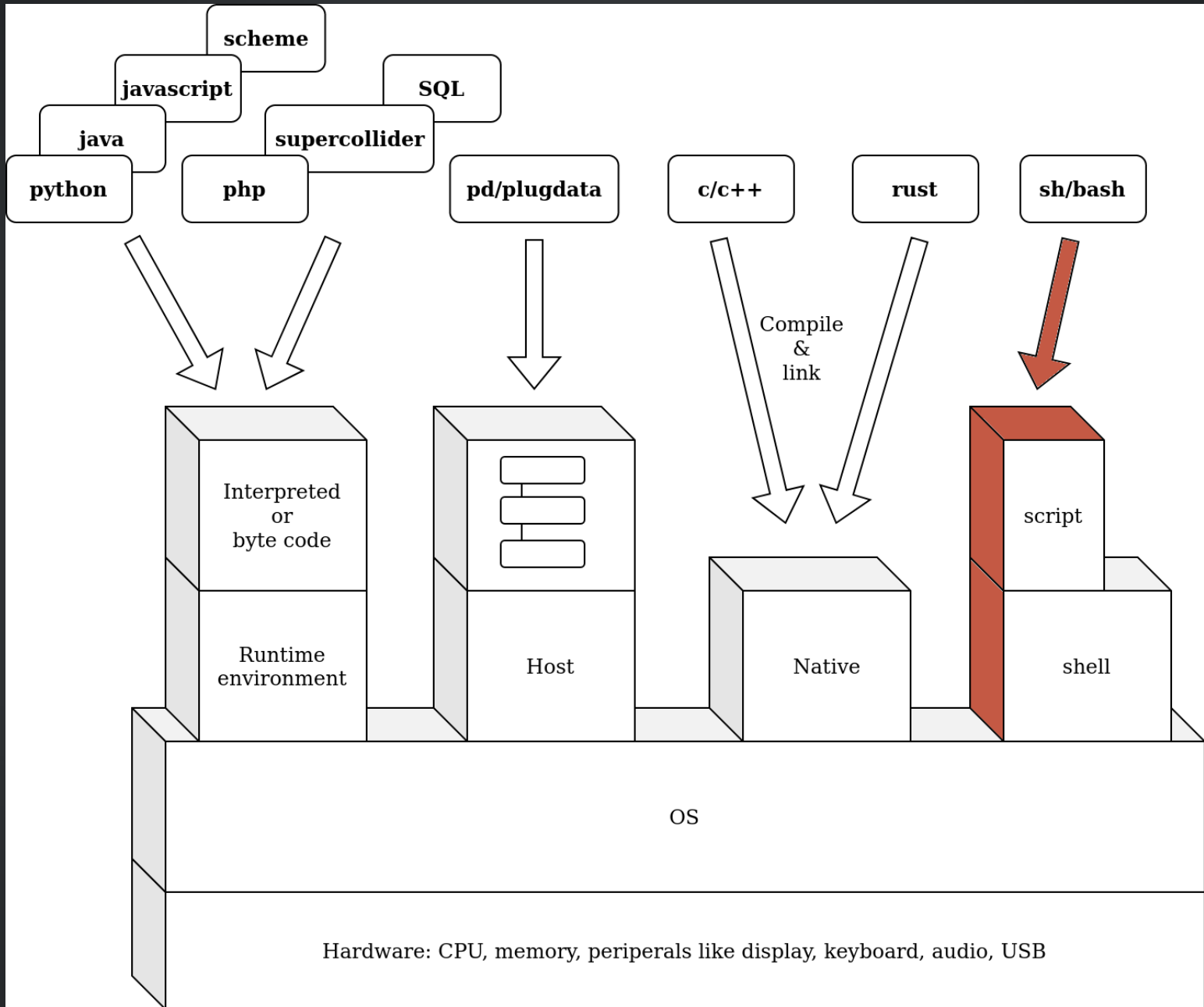
13:30 Javascript Rust Scheme Supercollider PHP SQL

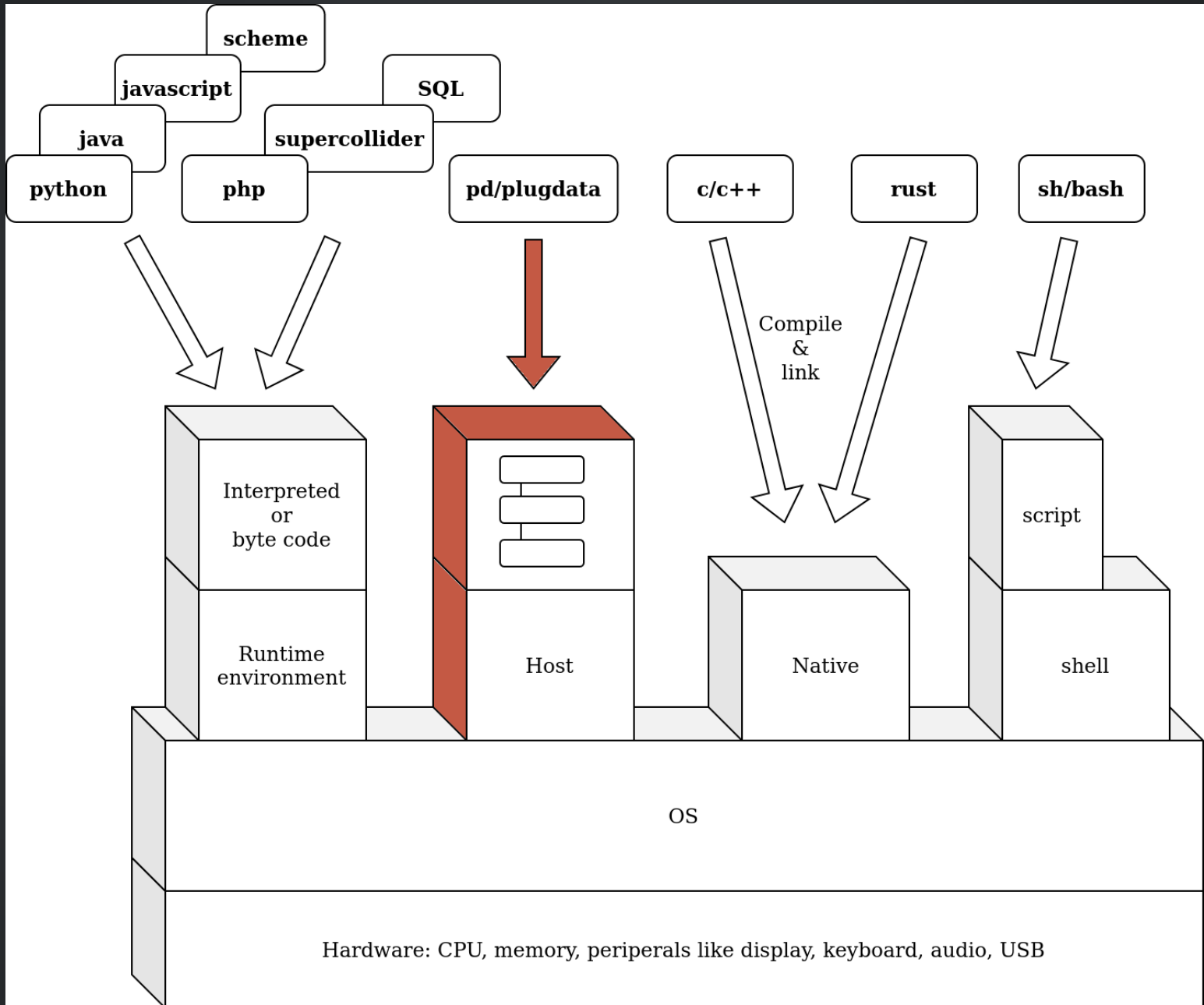
15:00 workshop













BASH
THE BOURNE-AGAIN SHELL

BASH

Interpreted text file

Command line

Automatiseren van routine

Glue

BASH HOWTO

Meestal al aanwezig

Maak text-file en voer uit met
bash myscript.sh

...of... chmod 755 en
begin file met `#!/bin/bash`

JAVA

Compiled

Platform independent

Runtime optimization

DB management, web-backend

Art/physics simulation

JAVA HOWTO

Installeer Java devkit en Java runtime

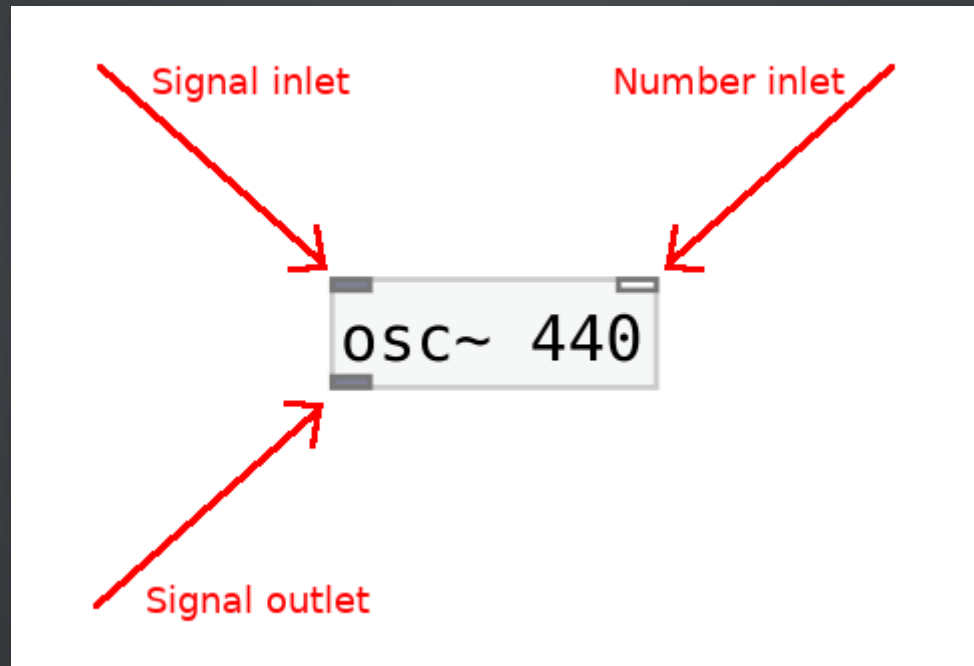
apt: default-jdk, default-jre

JDK: platform dependent, e.g. javac

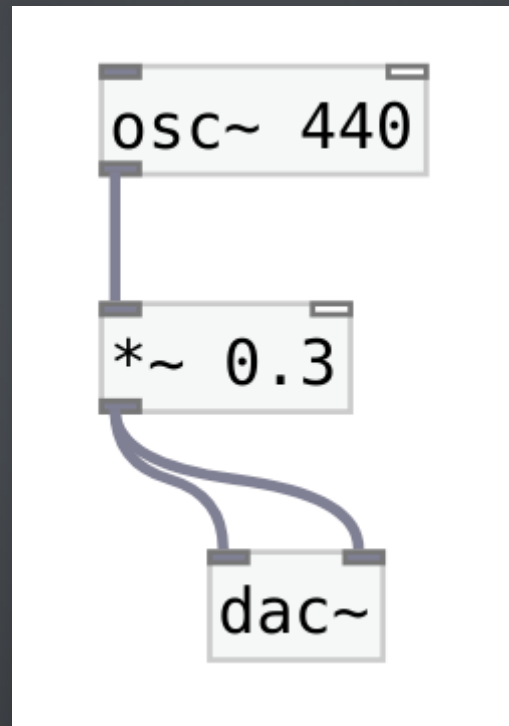
JRE: platform independent, e.g. JVM

en/of processing.org

PURE DATA

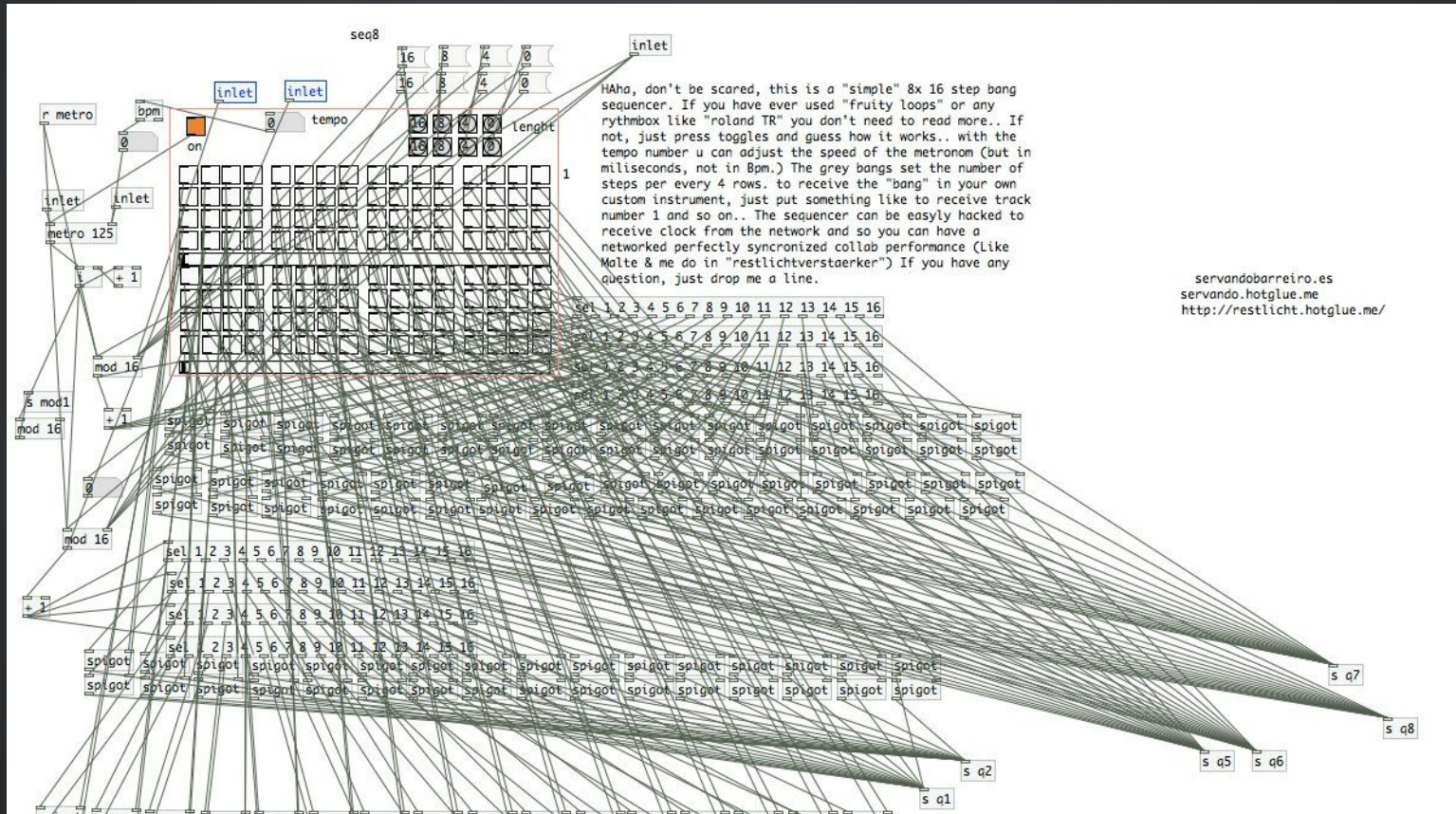


PURE DATA



PURE DATA

Source: Servando Barreiro, see screenshot.



PURE DATA

Visuele omgeving

Client/server

Real-time audio and video processing

Music, sound design, media art

PURE DATA HOWTO

Purr Data: github.com/agraef/purr-data

PLUGDATA

The screenshot displays the PlugData application window. The main area contains a Pure Data patch with the following components:

- circle**: A square patch with a circle and a right-angle symbol.
- keyboard**: A piano roll interface with keys labeled C3, C4, and C5.
- nbx**: A number box containing the value 64.000.
- mtof**: A message-to-float object.
- osc~**: An oscillator object.
- hsl**: A horizontal slider control.
- *~ 0.2**: A multiplication object with a constant value of 0.2.
- dac~**: A digital-to-analog converter object.

The right-hand side of the window features a settings panel with the following table:

Name	Value
Foreground	#42a2c8
Background	#161616
Send Symbol	
Receive Symbol	
Track	#323232
Minimum	0
Maximum	1
Logarithmic	<input type="checkbox"/> false

PLUGDATA

The screenshot displays the Ardour software interface during a live performance. At the top, the transport bar shows the current time as 00:01:27:13 and the track as 044|03|1732. The main workspace is divided into several sections:

- Timeline:** Shows a timecode of 01:15:00 and a playhead at 00:01:30:00. Tracks include Master, Bass DI, Vocal (with a 'Solo' button), Claps PRT-L, Keys L, Keys R, AC Gtr A...unc-1, E Gtr Lead, E Gtr L, E Gtr R, and Gang PRT-L.
- Mixer (Right):** Features faders and meters for Bass DI, Vocal, Claps PRT-L, and Keys L. The Vocal track is highlighted with a 'Solo' button.
- Bottom:** A piano roll for guitar tracks is visible, with a window titled 'a4-Live-Show - Meterbridge - Ardour'.

PLUGDATA

Plugin/stand-alone

Smooth GUI

PLUGDATA HOWTO

<https://github.com/plugdata-team/plugdata>

SCHEME

Fill 8

woodblock $\text{♩} = 100$

8

15

22

29

SCHEME

Graph Recomposition

Markov

guitar $\text{♩} = 80$

3

5

8

10

SCHEME

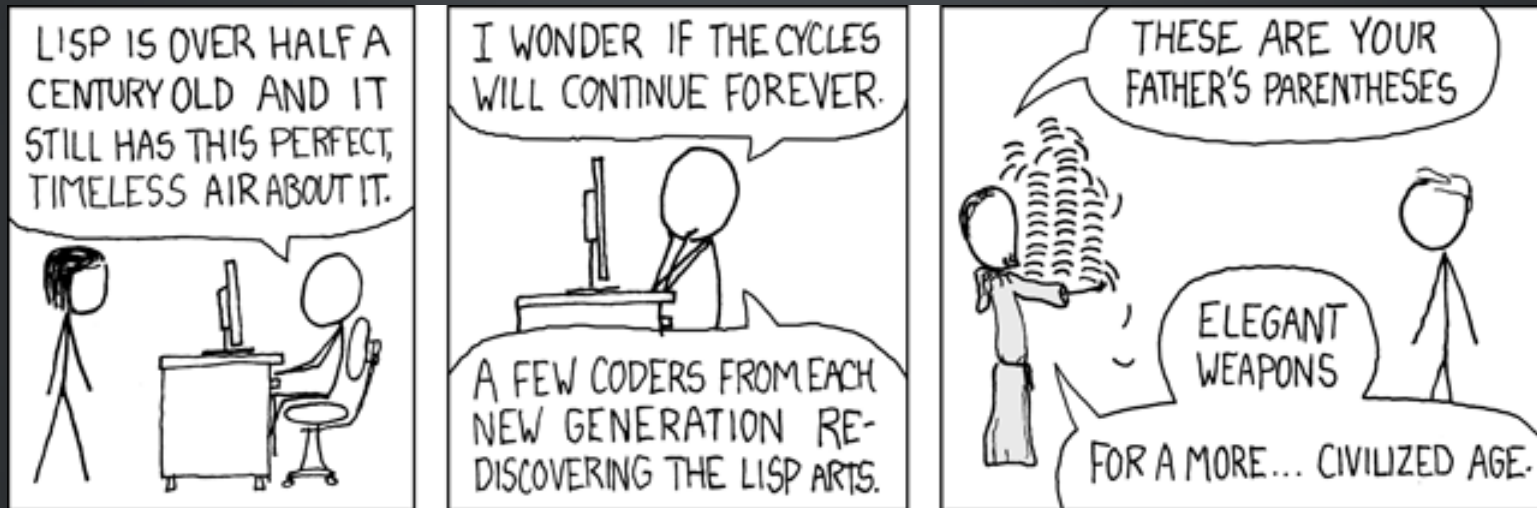
Lisp-achtig, 1970's

Elegante syntax

Functioneel

Wetenschap, wiskunde, muziek

Source: xkcd (Randall Munroe)



SCHEME HOWTO

www.gnu.org/software/guile

racket-lang.org



SUPERCOLLIDER

Client/server(s)

Real-time audio synthese

(algoritmische) compositie, audio processing

Sonic-Pi

SUPERCOLLIDER HOWTO

<https://supercollider.github.io>

Sonic Pi : sonic-pi.net

The image shows the PHP logo, which consists of the lowercase letters 'php' in a bold, italicized, black font with a white outline. The text is centered within a blue oval that has a slight gradient and a drop shadow. The entire logo is set against a dark gray background.

php

PHP

server-side

koppeling met webserver

koppeling met database

forum sites, CMS, e-commerce

PHP HOWTO

www.php.net


```
SELECT *  
FROM actors  
WHERE first_name = 'Jim';
```



	id [PK] integer	first_name character varying (100)	last_name character varying (100)	gender character (1)	film_count integer
1	7124	Jim	Alfonso	M	1
2	103007	Jim	Cummings	M	2
3	180448	Jim	Gough	M	1
4	264716	Jim	Lampley	M	1
5	285134	Jim	Lovell	M	1
6	317829	Jim	Meskimen	M	1
7	390454	Jim	Raqelin	M	1
8	522415	Jim	Youngs	M	1

Source: datasciencepartners.nl

IMDb

movies_genres	
movie_id	INT
genre	VARCHAR

roles	
actor_id	INT
movie_id	INT
role	VARCHAR

movies	
id	INT
name	VARCHAR
year	INT
rank	FLOAT



SQL

relational databases

SQL HOWTO

www.mysql.com

www.postgresql.org

sqlite : database zonder server