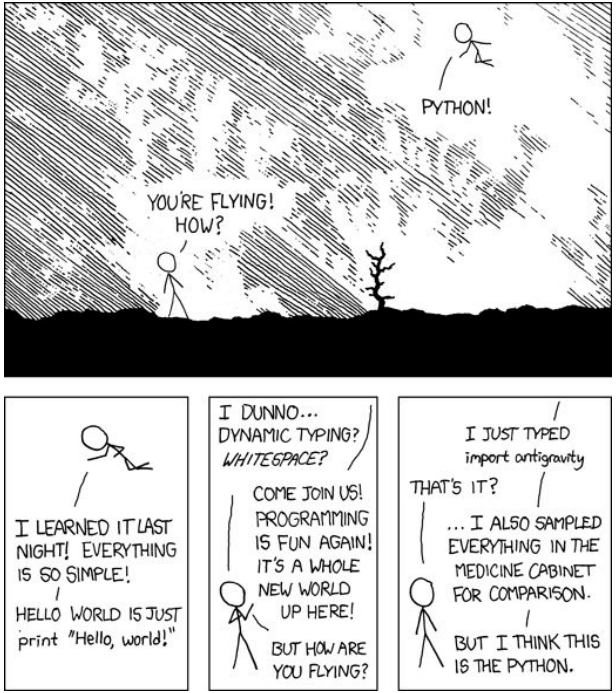
Kā strāda dators un programmēšana

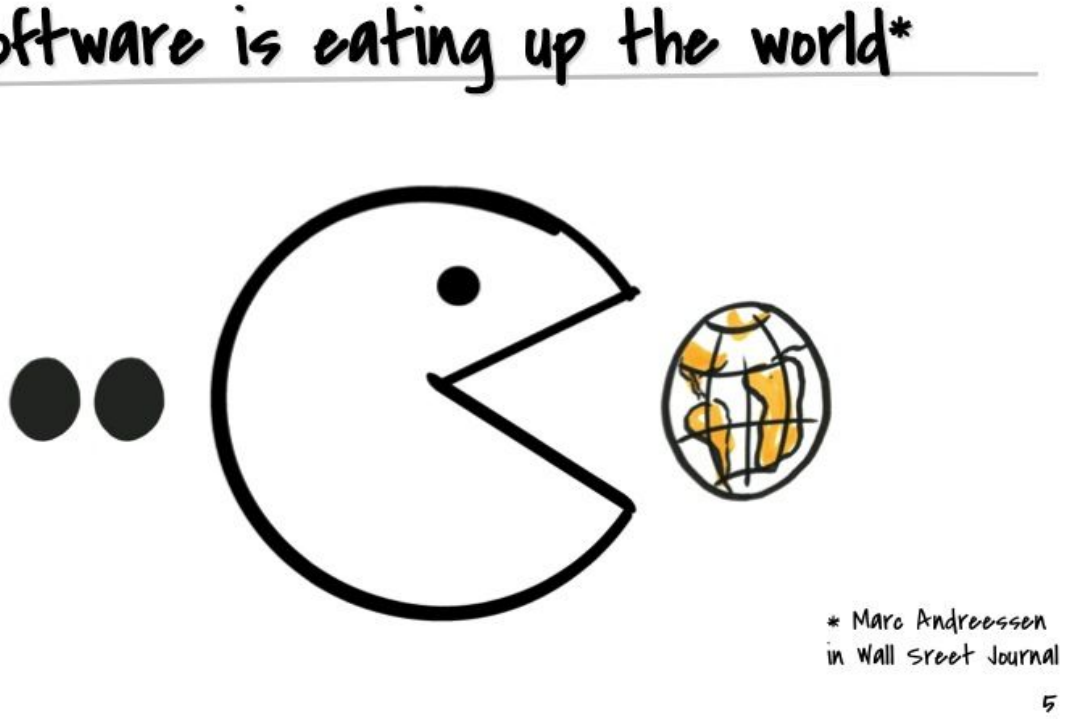


https://xkcd.com/353/

Ko mēs mācīsimies?

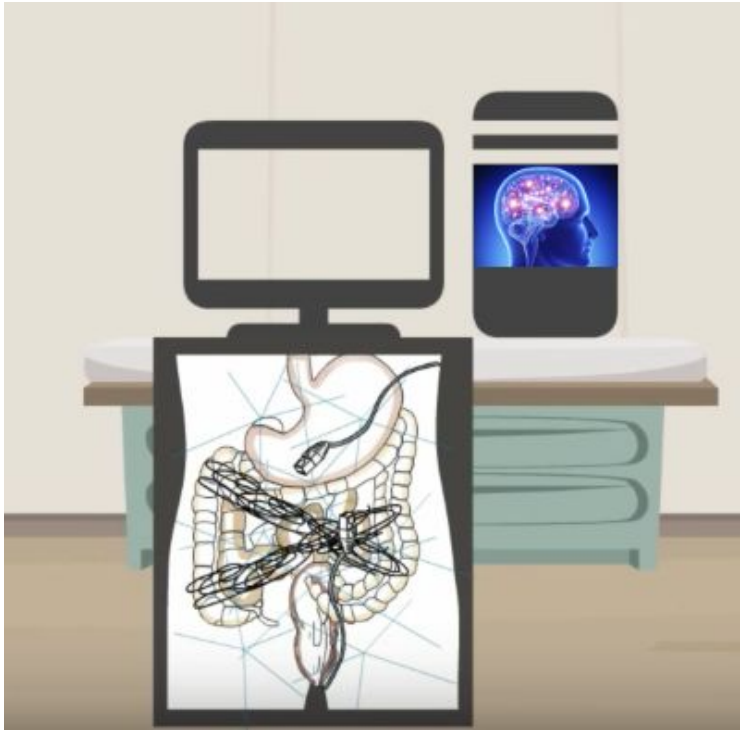
- Programmēšanu - datorprogammas izveides procesu
- Programmēšanas pamatus (Python)
- Kā panākt, lai dators dara to, ko mēs gribam
- Kā “saskaldīt” jebkuru problēmu
- Automate the boring stuff!

Programmas apēd pasauli

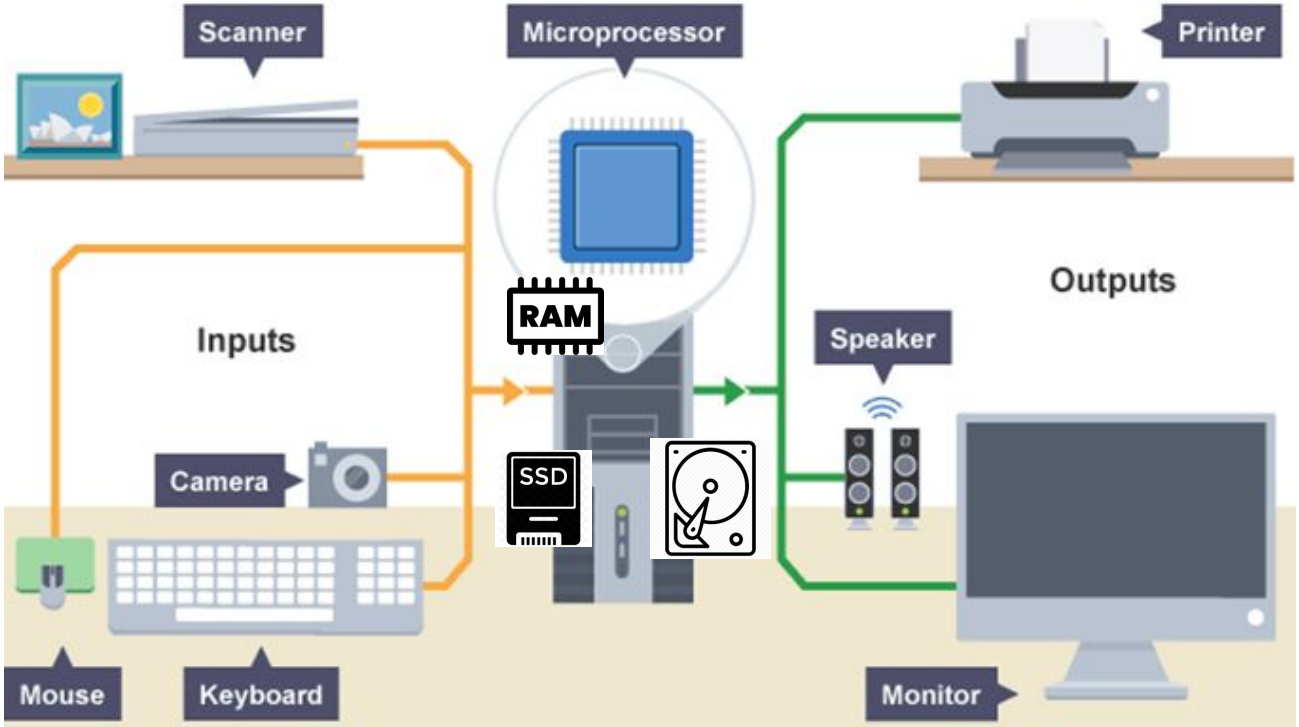


Data

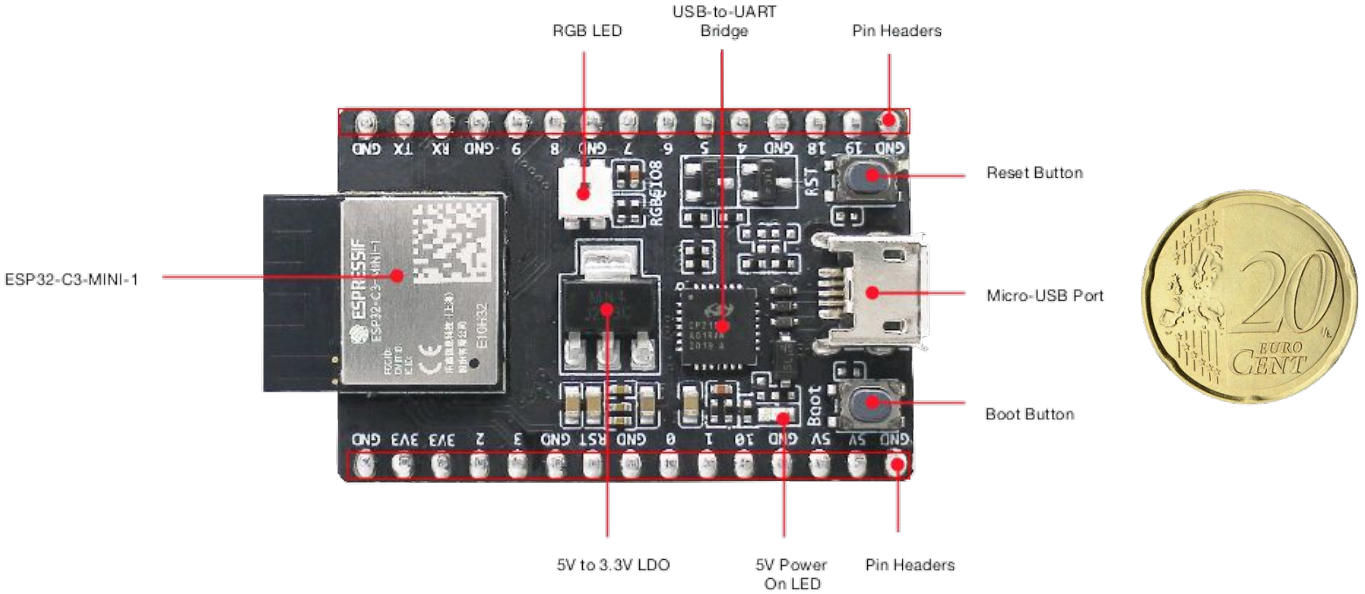
Dators = paklausīgs bērns(bet klīrīgs)



… jāsagremo viss, ko iebarojam



… arī mikro devās …



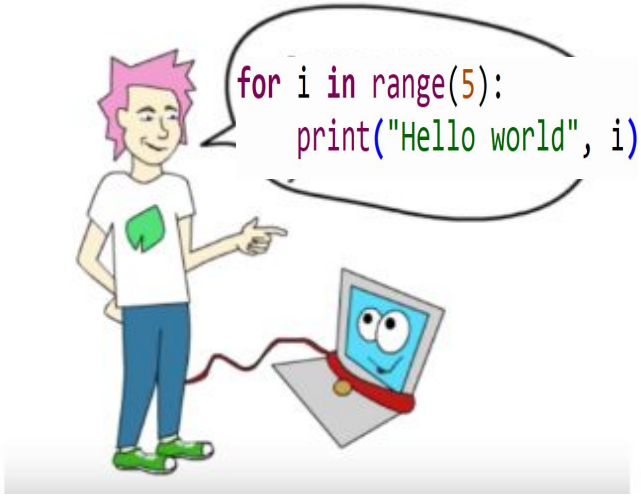
https://docs.espressif.com/projects/esp-idf/en/latest/esp32c3/hw-reference/esp32c3/user-guide-devkitm-1.html

Kā sarunāties?

“Welcome to The Matrix”

Mašīnkods

Cilvēkam lasāms kods



Abstrakcija

Abstrakcija

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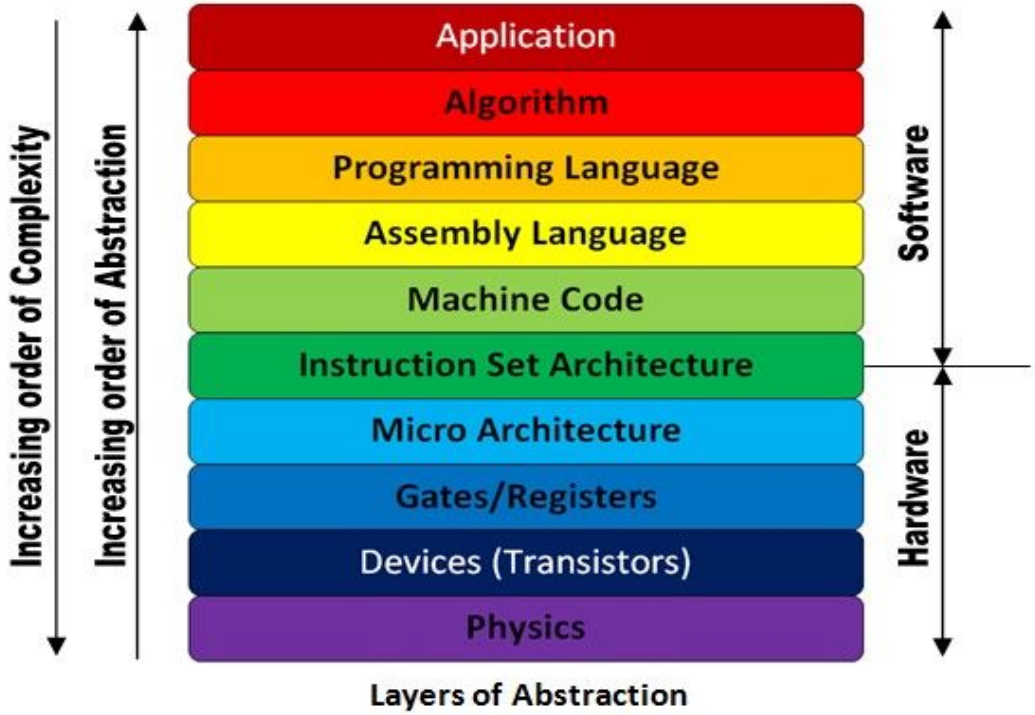
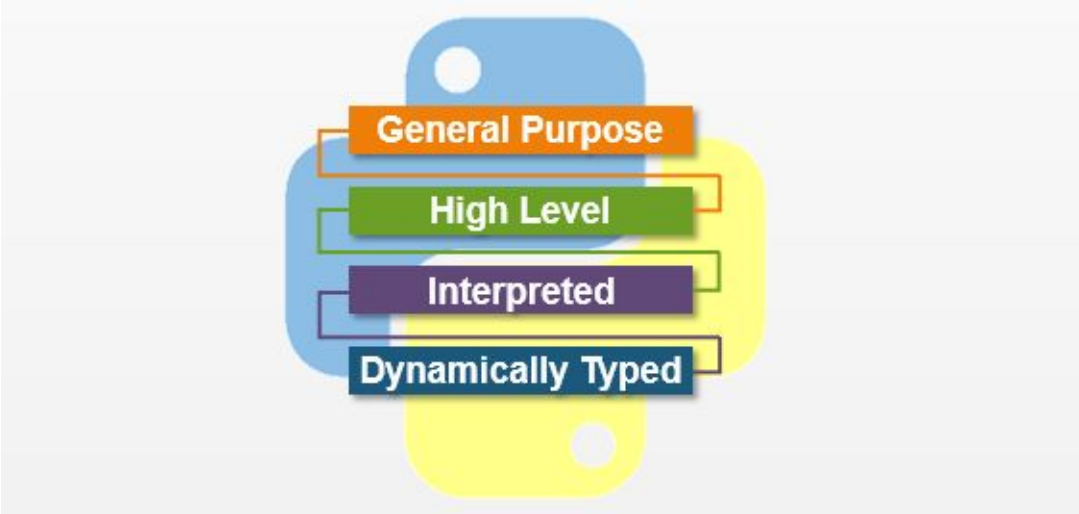


Python valoda



General

The popular YouTube video sharing system is largely written in Python

Google makes extensive use of Python in it's web search system

Dropbox storage service codes both its server and client software primarily in Python

The Raspberry Pi single-board computer promotes Python as its educational language

Google

Dropbox

RaspberryPi

COMPANIES USING PYTHON

BitTorrent

NASA

NETFLIX

BitTorrent peer-to-peer file sharing system began its life as a Python Program

NASA uses Python for specific Programming Task

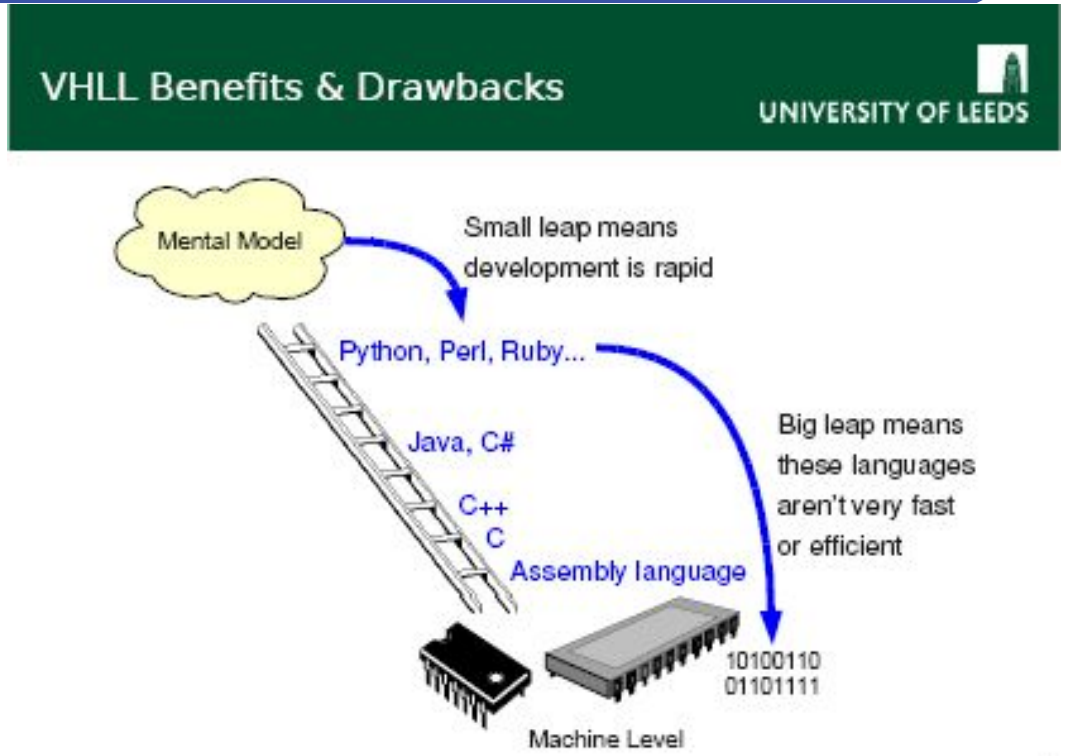
The NSA uses Python for cryptography and intelligence analysis

Netflix and Yelp have both documented the role of Python in their software infrastructures

General Glue Language

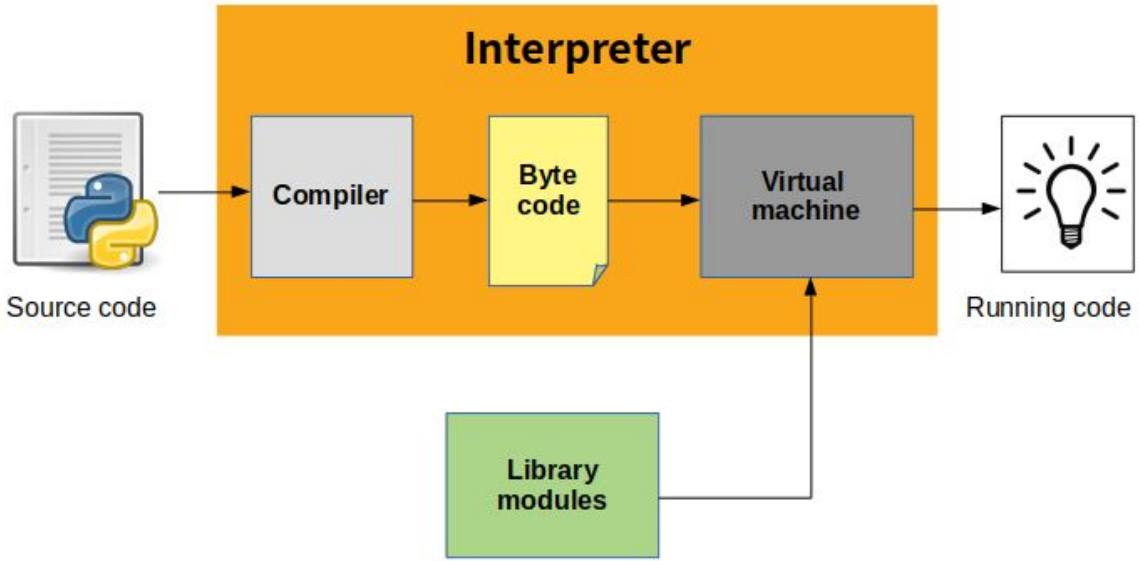
- Readable
- Interactive
- Interpreted
- Dynamic
- Object-oriented
- Portable
- High level
- Extensible in C++ & C

High-level


VHLL Benefits & Drawbacks
UNIVERSITY OF LEEDS
Mental Model
Small leap means
development is rapid
Python, Perl, Ruby...
Java, C#
C++
C
Assembly language
Big leap means
these languages
aren't very fast
or efficient
10100110
01101111
Machine Level

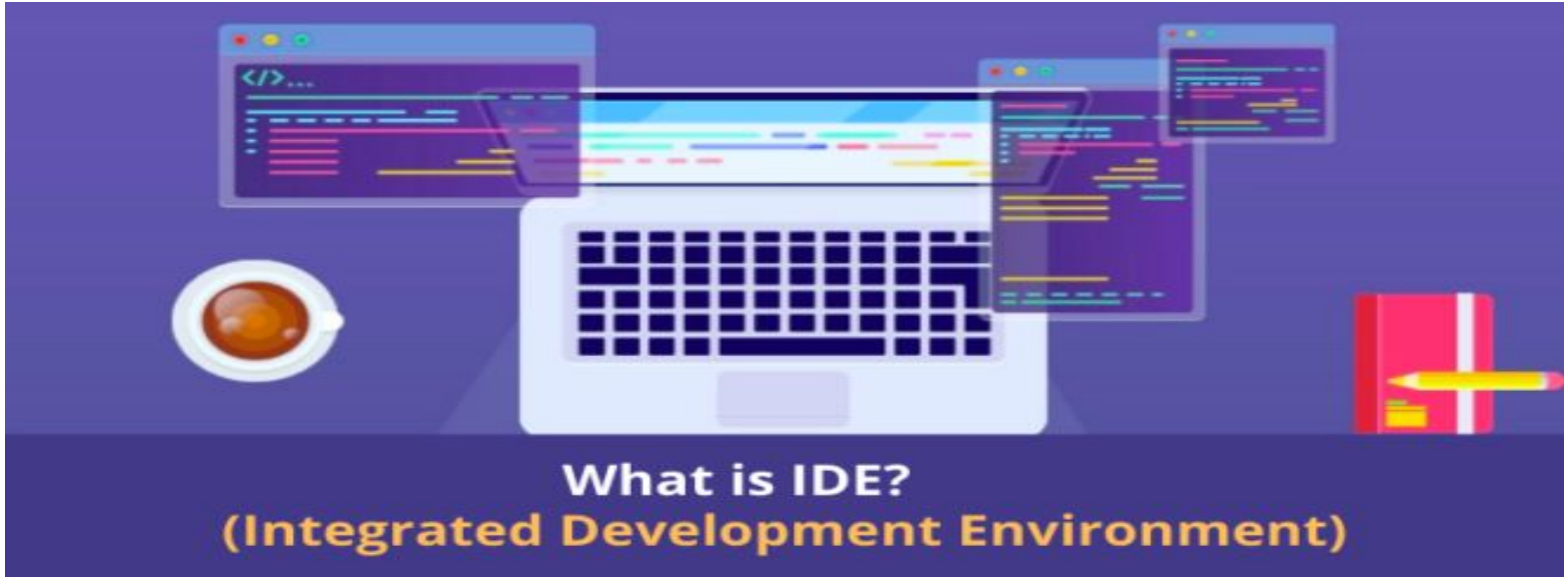
Python interpretators

Python interpretators



src: indianpythonista.wordpress.com

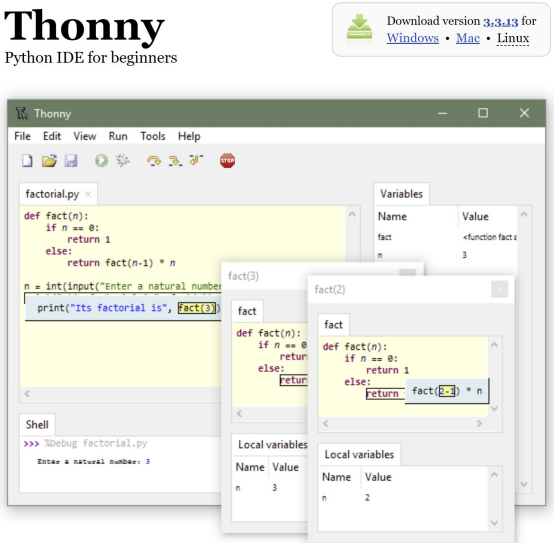
Izstrādes Vide



- Visual Studio Code - https://code.visualstudio.com/ - vispopulārākā
- PyCharm - https://www.jetbrains.com/pycharm/ - profesionālākā
- Thonny - iesācējiem

Izstrādes vide - iesācējiem

- https://thonny.org/
- **everything included to start work**
- **bundled with RaspberryPi etc**
- author Aivar Annamaa - Tartu University



Vārds
Ceļš šeit
Pieredze
Ko vēlaties sasniegt