

# Programming Thinking

## Hardware

Pepe García

# Plan for this session

- Learn a bit about hardware

# Plan for this session

- Learn a bit about hardware
- Try the VS Code editor

# CPU



- It's the part of the computer capable of *computing*.

# CPU



- It's the part of the computer capable of *computing*.
- Speed measured in hertz

# CPU



- It's the part of the computer capable of *computing*.
- Speed measured in hertz
- Moore's law (debunked)

# CPU



- It's the part of the computer capable of *computing*.
- Speed measured in hertz
- Moore's law (debunked)
- More computing power is achieved through more cores

# RAM

- RAM is the short term memory of a computer



# RAM

- RAM is the short term memory of a computer
- Think of it like a big shared blackboard



# RAM

- RAM is the short term memory of a computer
- Think of it like a big shared blackboard
- Divided in addresses



# RAM

- RAM is the short term memory of a computer
- Think of it like a big shared blackboard
- Divided in addresses
- Not persistent



# RAM

- RAM is the short term memory of a computer
- Think of it like a big shared blackboard
- Divided in addresses
- Not persistent
- Fast (Random Access)



# HDD / SSD

- Hard Disk Drives or Solid State Drives are the long term storage of the computer

# HDD / SSD

- Hard Disk Drives or Solid State Drives are the long term storage of the computer
- Persistent

# HDD / SSD

- Hard Disk Drives or Solid State Drives are the long term storage of the computer
- Persistent
- Slower than RAM

# HDD / SSD

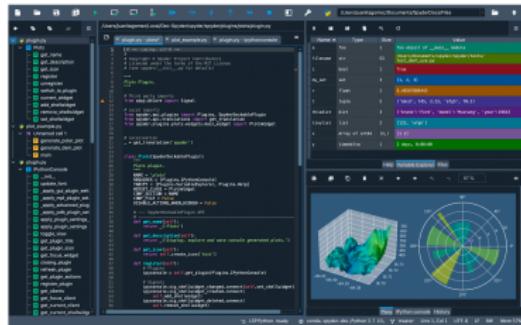
- Hard Disk Drives or Solid State Drives are the long term storage of the computer
- Persistent
- Slower than RAM
- Higher capacity than RAM

# Development Environment

## Anaconda

Does everybody have Anaconda installed?

# VS Code



# VS Code

VS Code is the editor we're going to use to develop Python programs.

# Review

# Review

- **CPU** is the *computing* part of our computer

# Review

- **CPU** is the *computing* part of our computer
- **RAM** is used for the runtime of our programs to hold volatile data

# Review

- **CPU** is the *computing* part of our computer
- **RAM** is used for the runtime of our programs to hold volatile data
- **HDD / SSD** stores non-volatile data, it's **way** slower than RAM. (<http://norvig.com/21-days.html#answers>)