Data Structures & Programmatic Thinking

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2020-04-20

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https://slides.com/pepegar/dspt-2/live

Plan for this session

- Learn about hardware
- Install Anaconda
- Try Spyder editor
- *troubleshooting*
- Break

Hardware: building blocks

Transistors

Basic component of computers

No moving parts (solid state)

Controls current flow

Chips

Millions of transistors grouped together

Moore's law

Pins make it possible to plug them to sockets

CPU

Brains of the computer

Moore's law debunked

More computing power is achieved through more cores

Speed measured in hertz

RAM

RAM is the short term memory of a computer

Think of it like a big shared blackboard

Divided in addresses

Not persistent

Fast

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

Motherboard

The motherboard ties all hardware components together

Lets them communicate

RAM goes in the blue slots in the right, CPU in the black square socket

Operating System

Operating System

The OS is the most foundational program running in a computer

It controls the hardware and gives other programs running in the computer access to hardware and resources

Installing Anaconda

- https://www.anaconda.com/download
- Download the 3.7 version for your OS
- Install it
- Open "Anaconda Navigator"
- Launch Spyder Editor

Trying Spyder

Spyder is the text editor we're going to use to develop our Python programs

Trying Spyder

Download the "try_spyder.py" file from the course files folder

Break!