

Programming Thinking

Hardware

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Plan for this session

- Learn a bit about hardware

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- Try the Spyder editor

CPU



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- Speed measured in hertz
- Moore's law (debunked)
- More computing power is achieved through more cores

RAM

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- Think of it like a big shared blackboard



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- Not persistent



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- Think of it like a big shared blackboard
- Divided in addresses
- Not persistent
- Fast (Random Access)



HDD / SSD

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- Slower than RAM

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

Spyder



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

Using Spyder

Spyder lets you edit source code files, and run them. Let's see how to use it!

Review

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- **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>)