- **Key idea** - code and data in same memory

- How do we know what code is and what data is?
  - The **program counter** points to an instruction in memory making it code. This instruction may instruct the processor to load bits from memory and modify them making these bits data.

- **Bootstrapping** - Loading the first program

  - At the very beginning hardware support is needed to set the PC to address 0 of the memory where the boot-loader code is stored.

  - The boot-loader is code stored in non-volatile memory (ROM) that instructs the processor to load code.

  - Last instruction sets the PC to address 0 of main memory.

Von Neumann Machine

Introduction to RISC-U

- RISC-U is the RISC-V subset targeted, emulated, and virtualized by selfie.

- There are 14 instructions, each 32-bit wide, the processor knows and the compiler generates code for.

- When talking about formal languages it is important to distinguish between the syntax and the semantics of that language.

Von Neumann Machine

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