

MOS Technology 6502

- 1975, way cheaper!
 - smaller
 - better printing tech

→ home computing revolution.

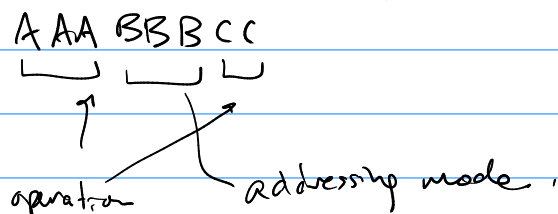
Atari, Apple II, NES, Commodore 64, BBC Micro, ...

Registers

A (accumulator) (8 bits)
X } index registers (8 bits)
Y }
P - processor status. (8 bits)
S - stack pointer (8 bits)
PC (16 bits). (64 KB instruction memory)

Instructions

8-bit instruction codes (opcodes).



Operations:

- logic ops
- ADD, SUB → produce a carry bit.
- CMP
- JMP - unconditional jump
- Branch - conditional, relative jump.
- shift + rotate?

Addressing modes

- Immediate — next byte after opcode is a constant.
- Absolute — next 2 bytes are a memory address.
- Zero-page: next byte is a memory address.
 - look up in first 256 bytes of RAM.
- Indirect: look up an address from memory.
 - next 2 bytes are memory address;
that memory address + next one itself stores
memory address; look that up.
- Indirect indexed:
 - next byte is a zero-page address; look up
an address there + add Y to it.