



Patent

invention (process)

Copyright

copy of expression

64-bit machine

→ reg are 64-bits

memory starts

↳ RO

↳ PC

8-bit  
byte

$2^{64}$  addresses

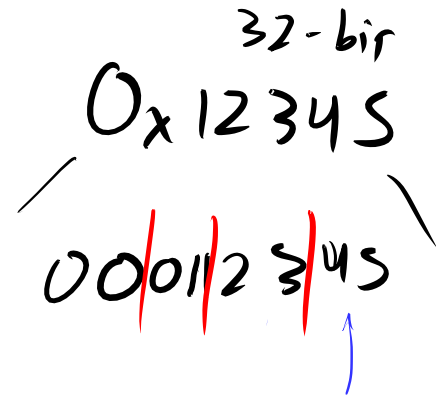
16E: byte

Things at  
address in RAM

8GB

$$\frac{8GB}{16EB} = \frac{2^{33}}{2^{64}} = \frac{1}{2^{31}}$$

"big value"  
~~reg~~ ←→ mem  
 none



→ 0x200

45
23
01
00

1. break into bytes
2. Store adjacently
3. address of "big value" = smallest address of its bytes
4. Order:
  - if parts are ordered, 1<sup>st</sup> goes smallest address
  - else pick little-endian - low-order part 1<sup>st</sup>
  - big-endian - high-order part 1<sup>st</sup>

$\left[ \overbrace{0x1234}^{16 \text{ bits}}, \overbrace{0x5678}^{16 \text{ bits}} \right]$

0001 0010 0011 0100  
 0101 0110 0111 1000

address	little-endian	big-endian
addr F00	34	12
F01	12	34
F02	78	56
F03	56	78