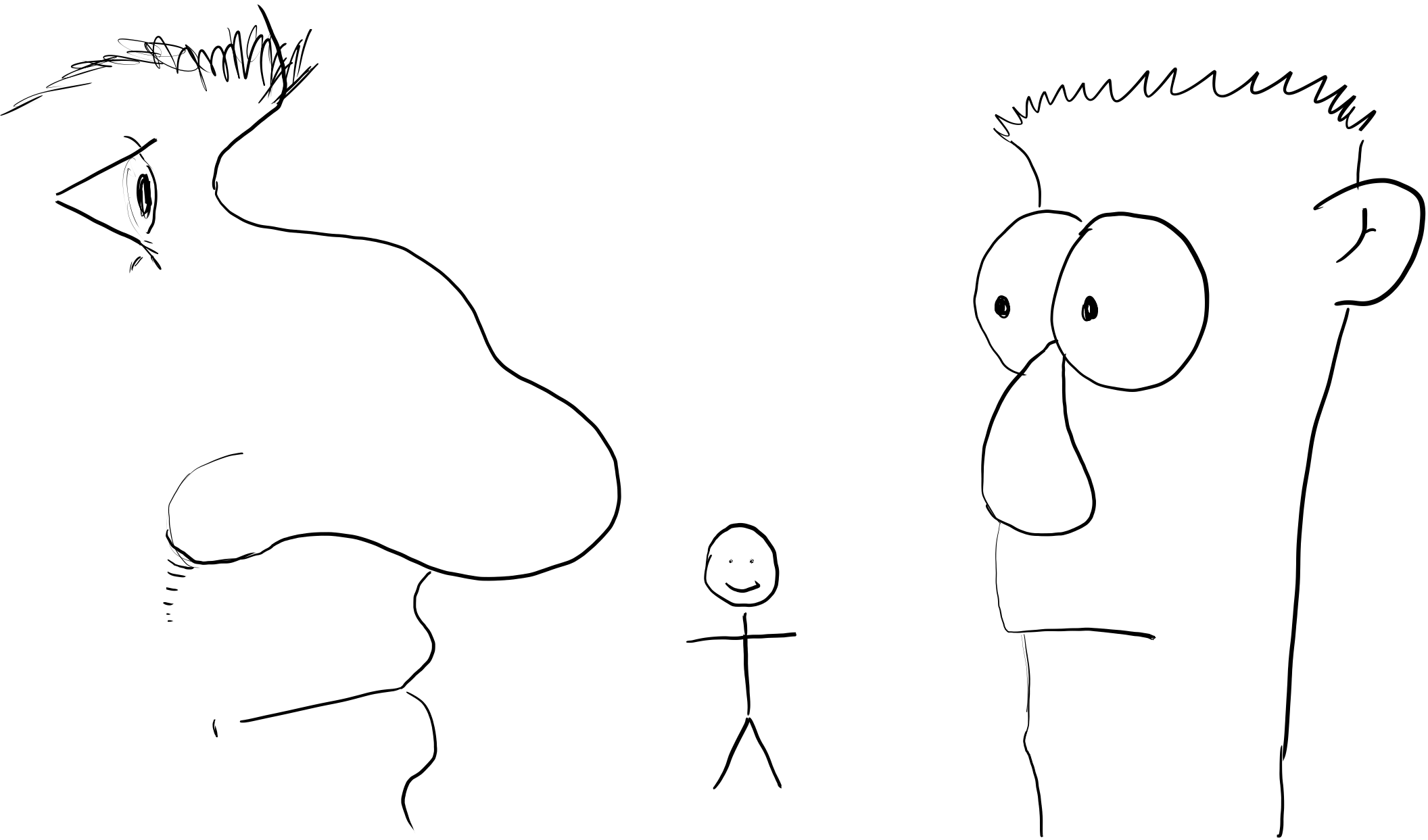
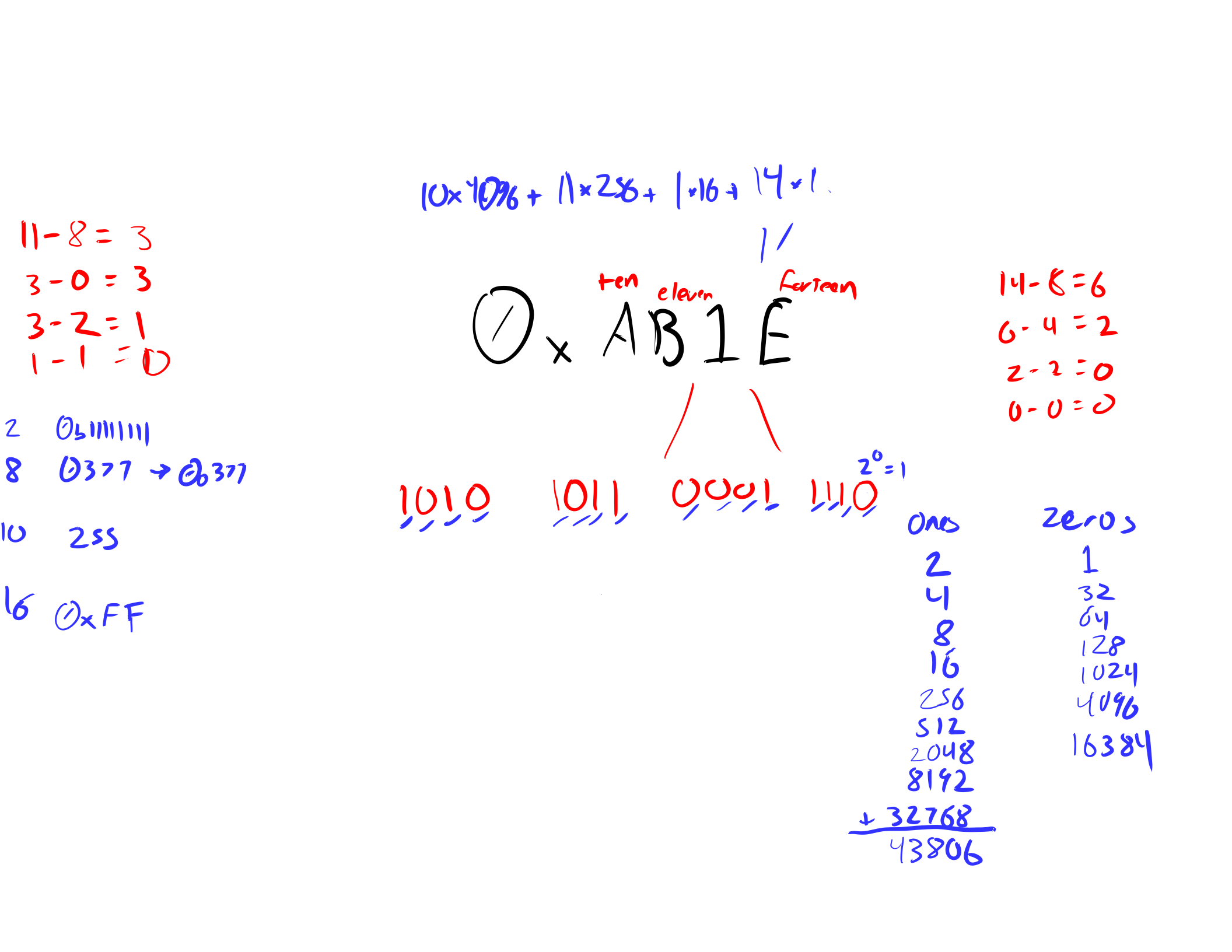



10x4096 + 11x256 + 1x16 + 14x1
11-8=3
3-0=3
3-2=1
1-1=0
0xABIE
ten
elevn
fortoon
14-8=6
6-4=2
2-2=0
0-0=0
2 0b11111111
8 0377 → 0b377
10 255
16 0xFF
1010 1011 0001 1110
2^0=1
ONES
2
4
8
16
256
512
2048
8192
+ 32768
43806
zeros
1
32
64
128
1024
4096
16384

CPU

2

256

2^{32}

2^{64}

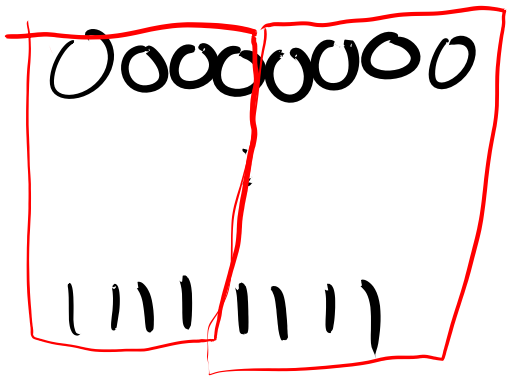
Memory (disk, network)

base 256

byte

octet

nyble



negative

0 ... 255	unsigned
-128 ... 127	signed

— high-order bit = 1, negati

english letters + punctuation + sft

11111011b — 251 / -5

1 + 255 in a byte

x + 1 = 0

x = -1

256

100000000 = 0

255 = -1
254 = -2
253 = -3

$2^{10} = 1024$

$10^3 = 1000$

2^{38} Bytes

$=$

$2^8 2^{30}$

256 GiB

$Ki = 2^{10} = 1024 \approx 1000$

$Mi = 2^{20} \approx 1000000$

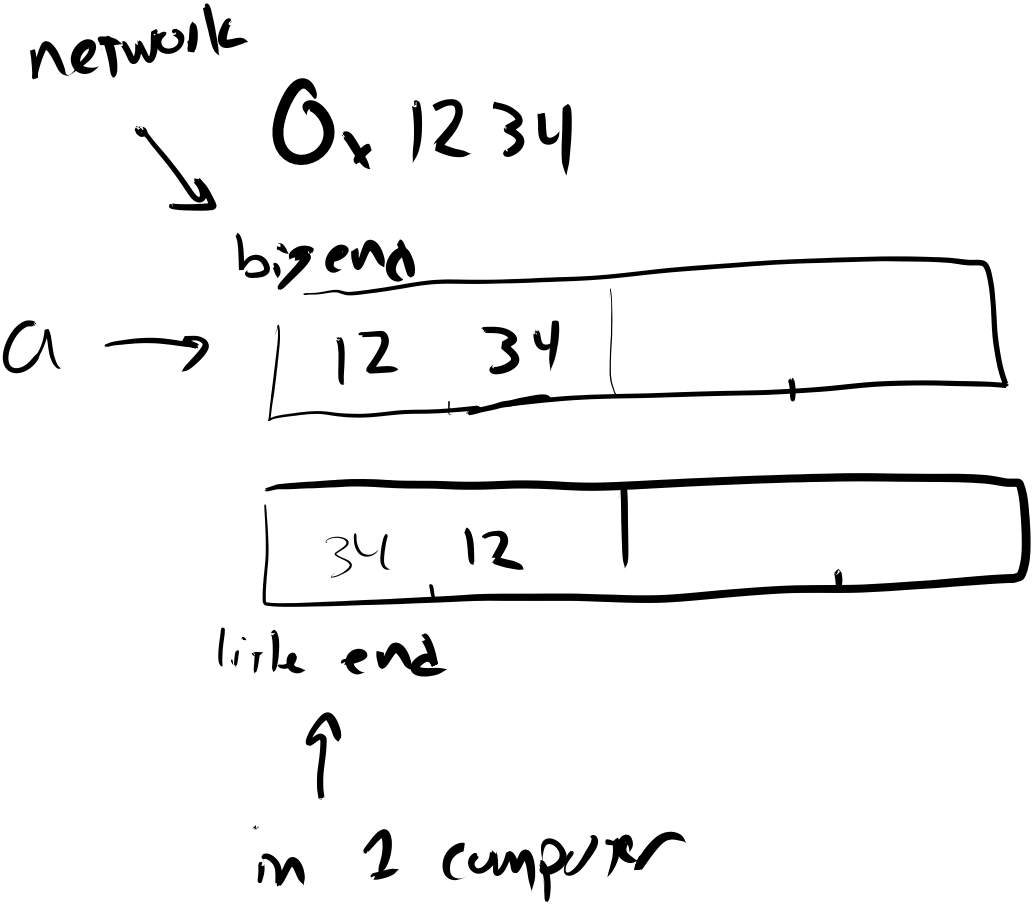
$Gi = 2^{30} \approx$ billion

$Ti = 2^{40} \approx$ trillion

$Pi = 2^{50}$

$Ei = 2^{60}$

network



big endian

little endian

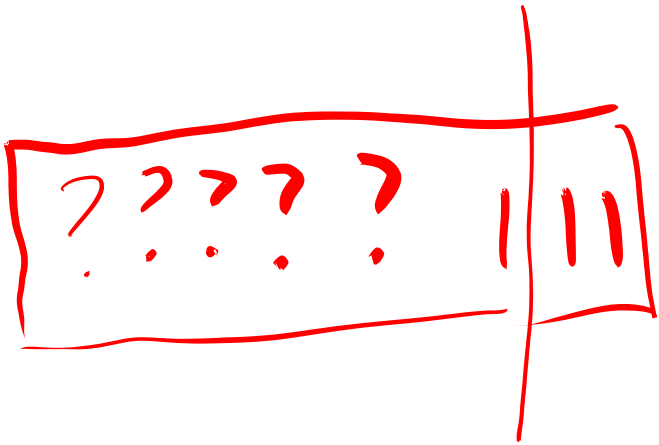
340

340

char c = 0xe2;

1 1 0 0 0 1 0

c >> 5



c & 0b00000011