

CS 208

Mon, 10 Apr 2023

1	0	0	0	-8
1	0	0	1	-7
1	0	1	0	-6
1	0	1	1	-5
1	1	0	0	-4
1	1	0	1	-3
1	1	1	0	-2
1	1	1	1	-1
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
0	0	0	0	8

4-bit  
two's complement  
integer rep'n

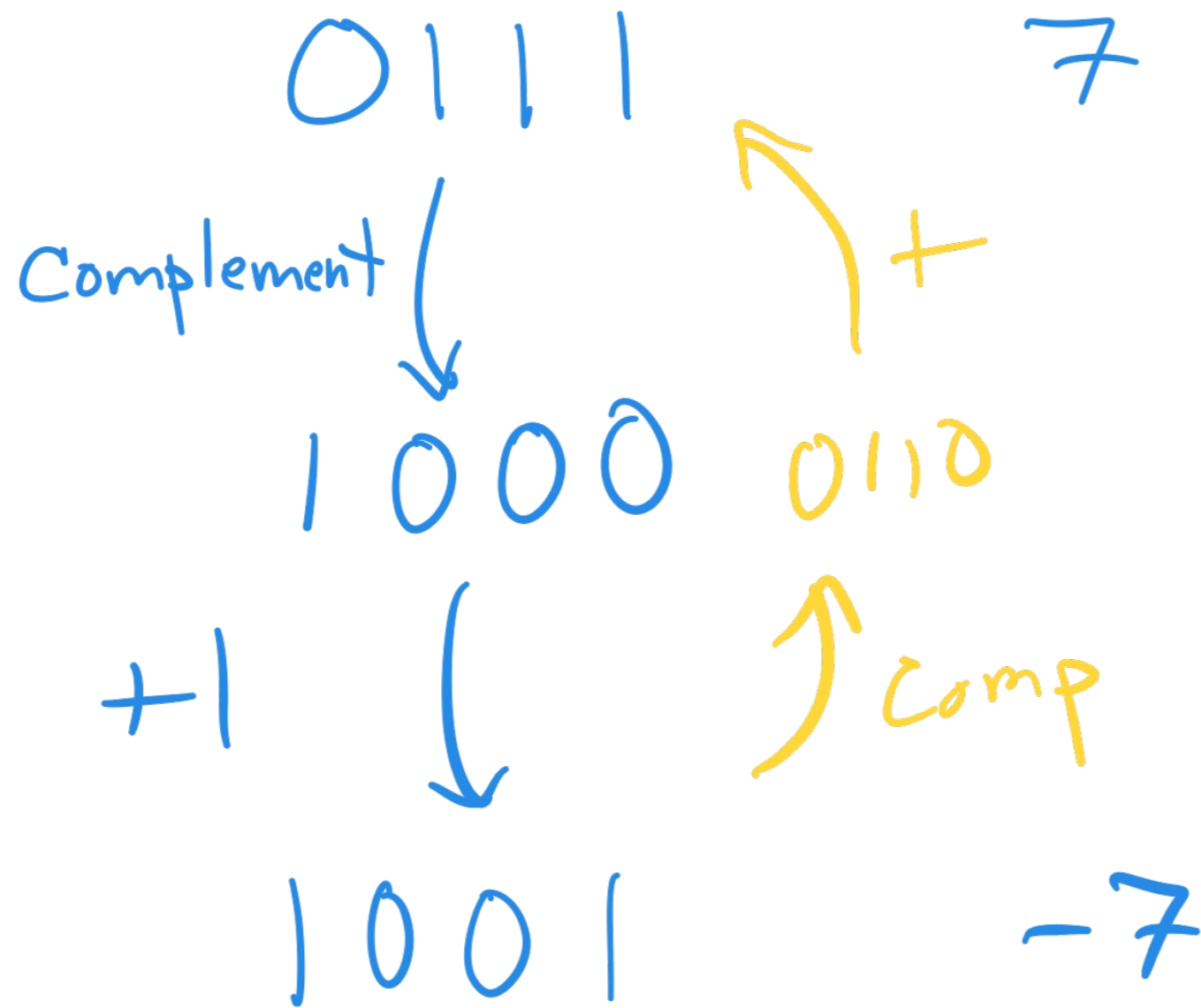
Why?

1	1	0	1
1	1	0	1
<hr/>			
0	0	1	0

Normal + algorithm works

~~XXXXXX~~

How to negate a two's comp int?



8-bit two's comp. Answer: -19

$$0xED = 0b11101101$$

Negate to get magnitude

answer  
negative

$$00010010$$

$$+1 \downarrow$$
$$00010011 = 19$$

16    2    1

8-bit 2's comp

$$-29 = ?$$

$$+29 = 0b00011101$$

16+8+4+0+1

comp ↓

$$11100010$$

+1 ↓

$$11100011$$

hexdump -C

0x41 =

| 0100 0001 |

0xCE

1100 1100



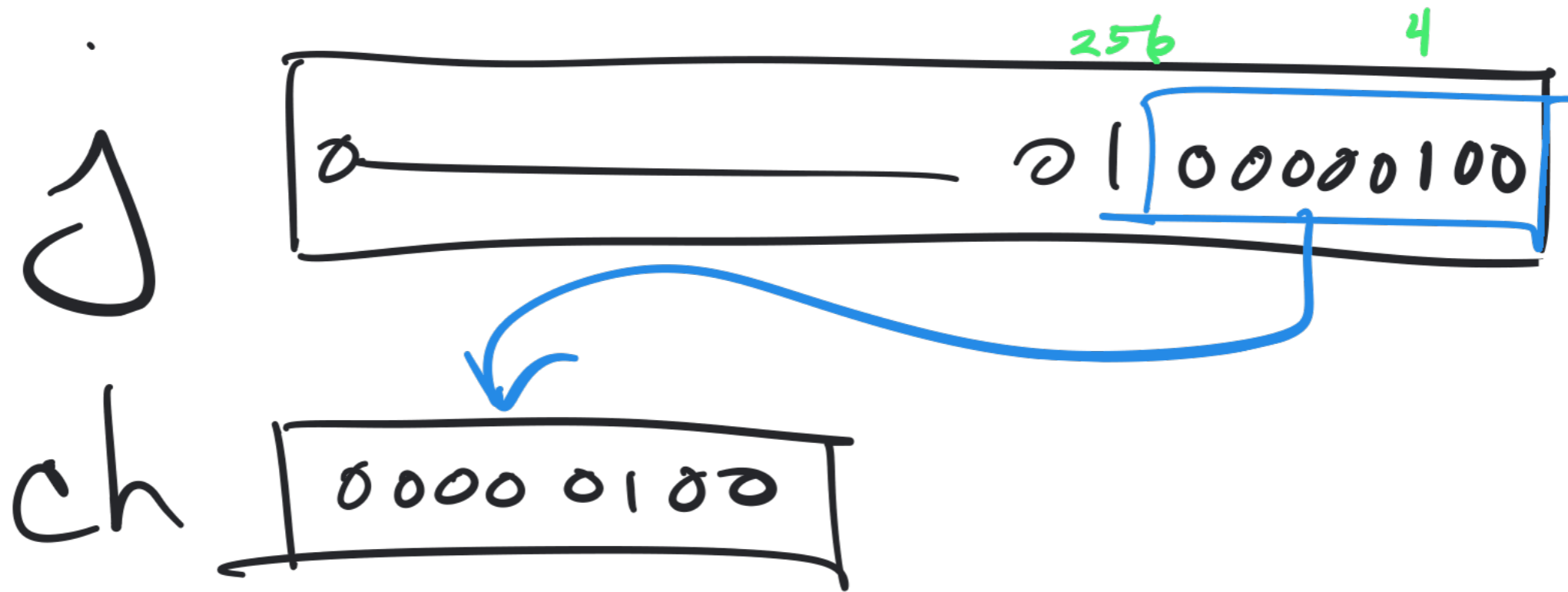
int j = 25;

unsigned int k = j;

copy the bits



int j = 260; // 4 bytes  
char ch = j; // 1 byte





char ch = 0xCE; (-50)

int j = ch;

