

CS 208

Friday

11 Feb

2022

# Two's complement ints

Need: "how many bits are we talking?"

Do:

- Convert normal int (decimal) to N-bit TC
- Convert the other way

32-bit TC for  $N = 18$

① Write  $|N|$  in binary (32 bits)

0 ————— 010010

0000 0000 0000 0000 0000 0000 0001 0010

② Complement

1111 1111 1111 1111 1111 1111 1100 1101

③ Add 1

1111 1111 1111 1111 1111 1111 1100 1110

0x F F F F F F F E E

Go the other way

(32-bit  
TC)

0x FFFF FFFF E

bin

1111 1111 1111 1111 1111 1110 1110

comp  
0000

0 0001 0001

+1

0 0001 0010

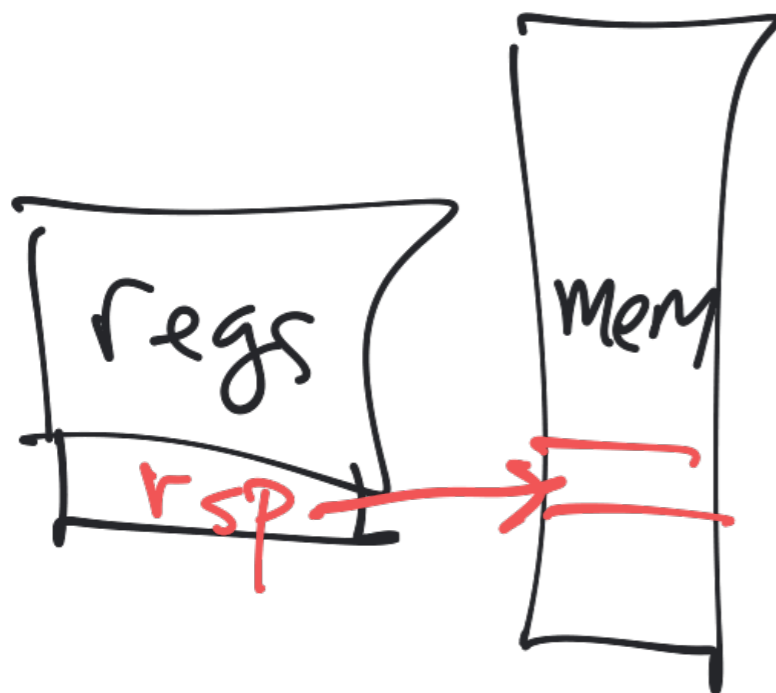
mov 0x8(%rsp, %rbx, 4), %eax

%rsp is a pointer to the top of the stack

%rbx here is a counter

4 is an offset

8 is an offset



mov 0x8(%rsp, %rbx, 4), %eax  
Copy array[%rbx] into %eax



"effective address"

$$= \%rsp + 0x8 + \%rbx * 4$$

