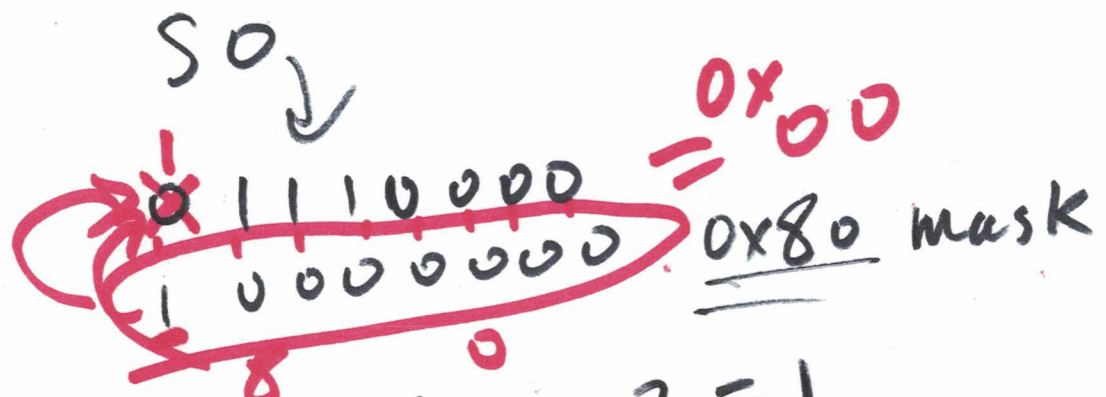


$$\frac{V_{in} - 0}{R_1} = \frac{0 - V_{out}}{R_f}$$

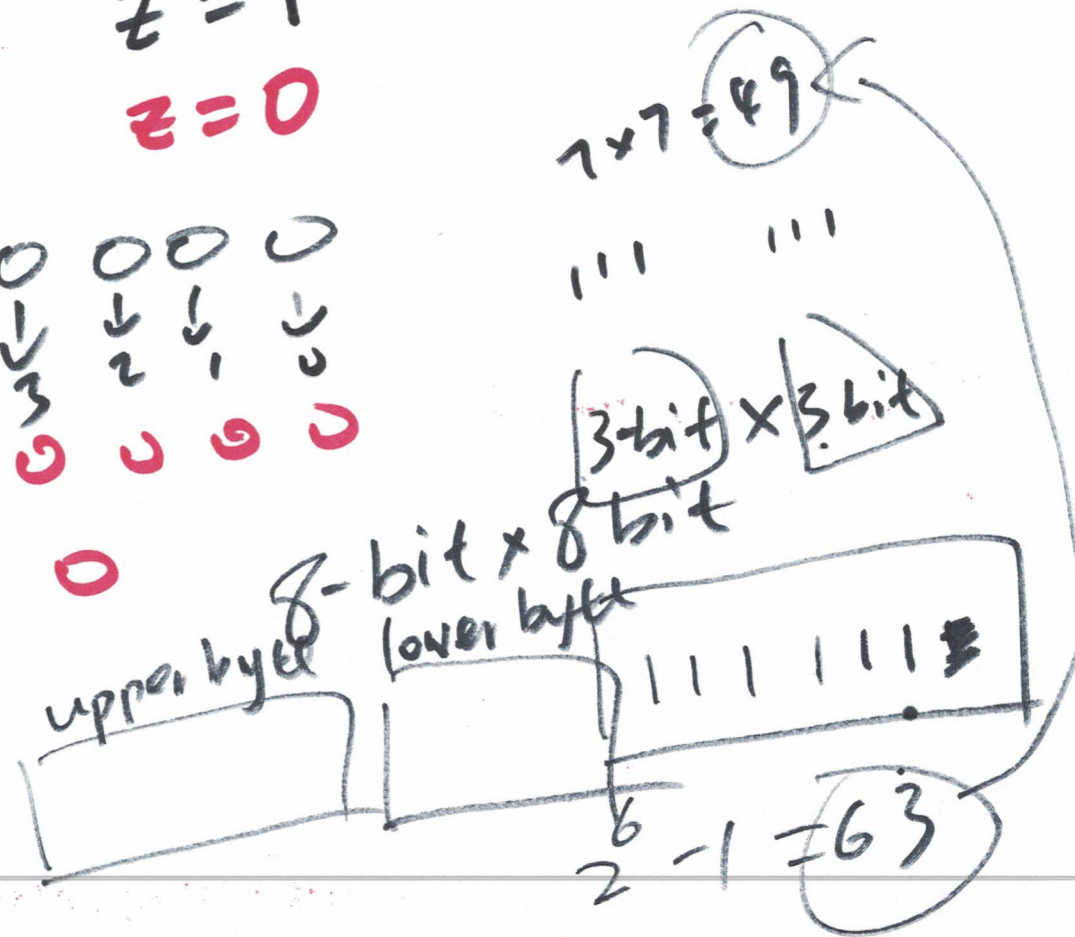
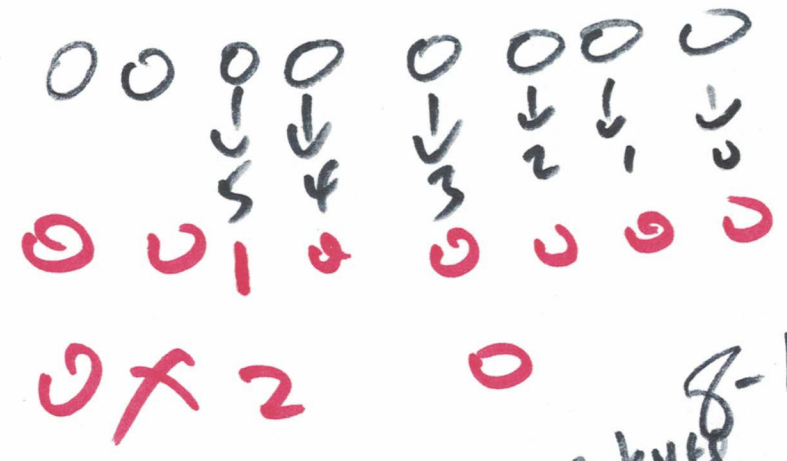
$$\Rightarrow \frac{V_{out}}{V_{in}} = -\frac{R_f}{R_1}$$

TIA
 transimpedance
 Amplifier

inverting
 configuration



test 50, 80 z = 1
 z = 0



In-class exercise – Soft Core II (0.5 bonus points each)

1. Use assembly code to toggle bit 5 of s0 and send the result to s0.
2. Use assembly code to clear bit 1 of s1 and send the result to s0.
3. Use assembly code to set bit 0 of s2 and send the result to s0.
4. Use assembly code to check bit 7 of s0, if result is 0, assign s0 to s1, otherwise go to address symbol “done” and do nothing there.

5. Extract bit 5 of s0 and load it to s2.

LSB → MSB
↓

6. A 16-bit binary number is stored in s0 and s1 as {s0, s1}. Use assembly instructions to shift the 16 bit number to the right by one bit.

7. Use assembly to implement this control structure:

If (s1 > s0)

{s1 = s1 + 1}

else

{done and do nothing}

s0 - s1

Compare s0, s1

Jump t, doSomething

Jump ne, done

doSomething:



done:
X

