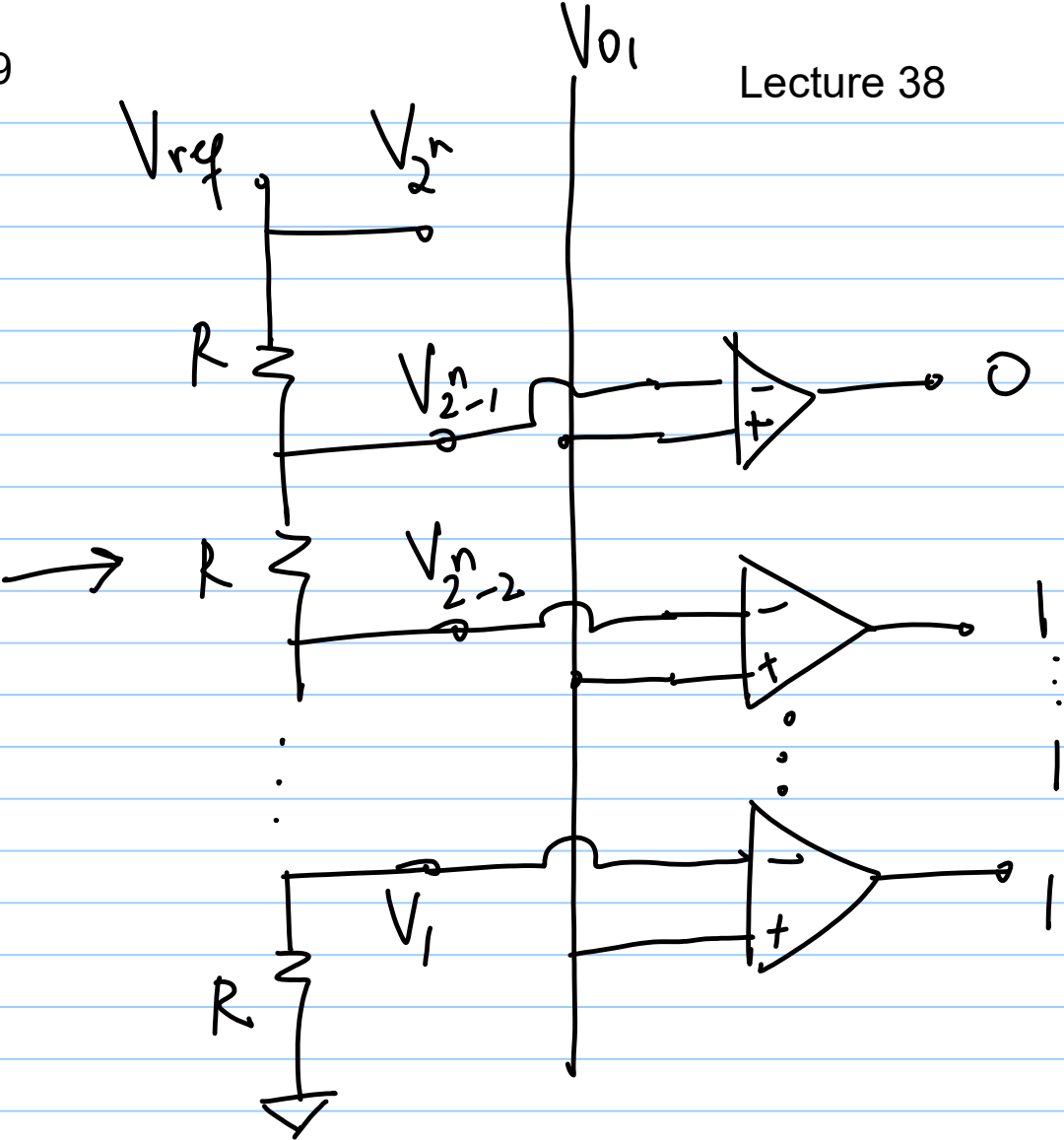


11/04/2019

Lecture 38

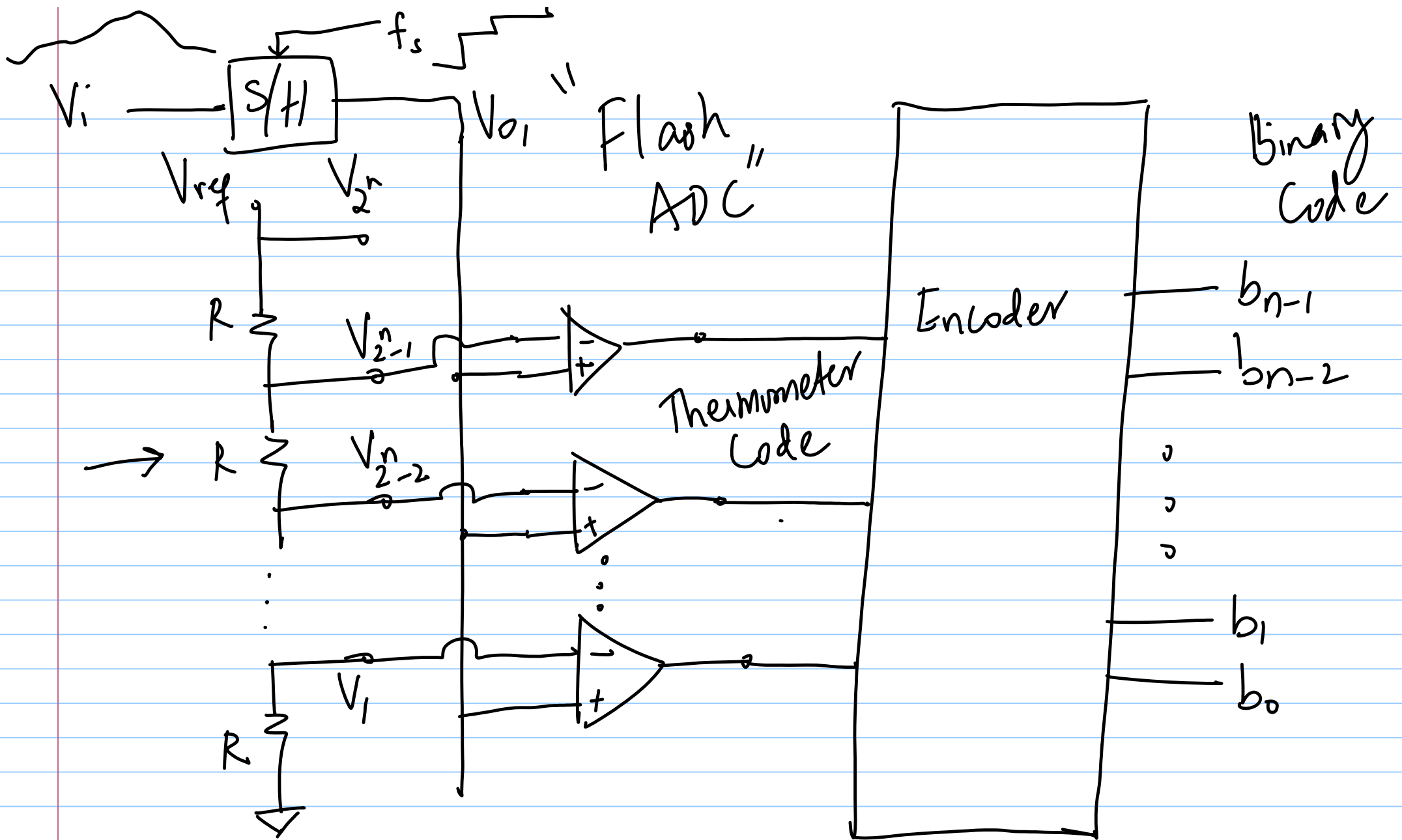


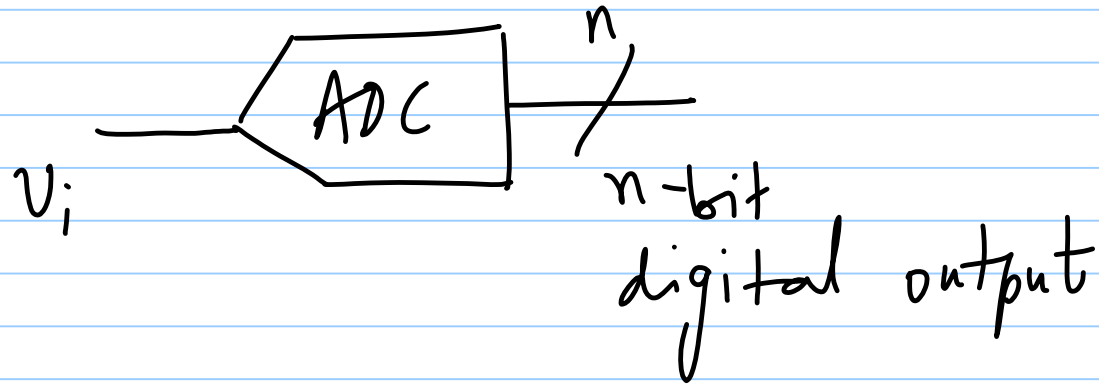
0
0
0
:
:
:
0
1
:
:
:
1
:
:
:
1

D_1

1^s

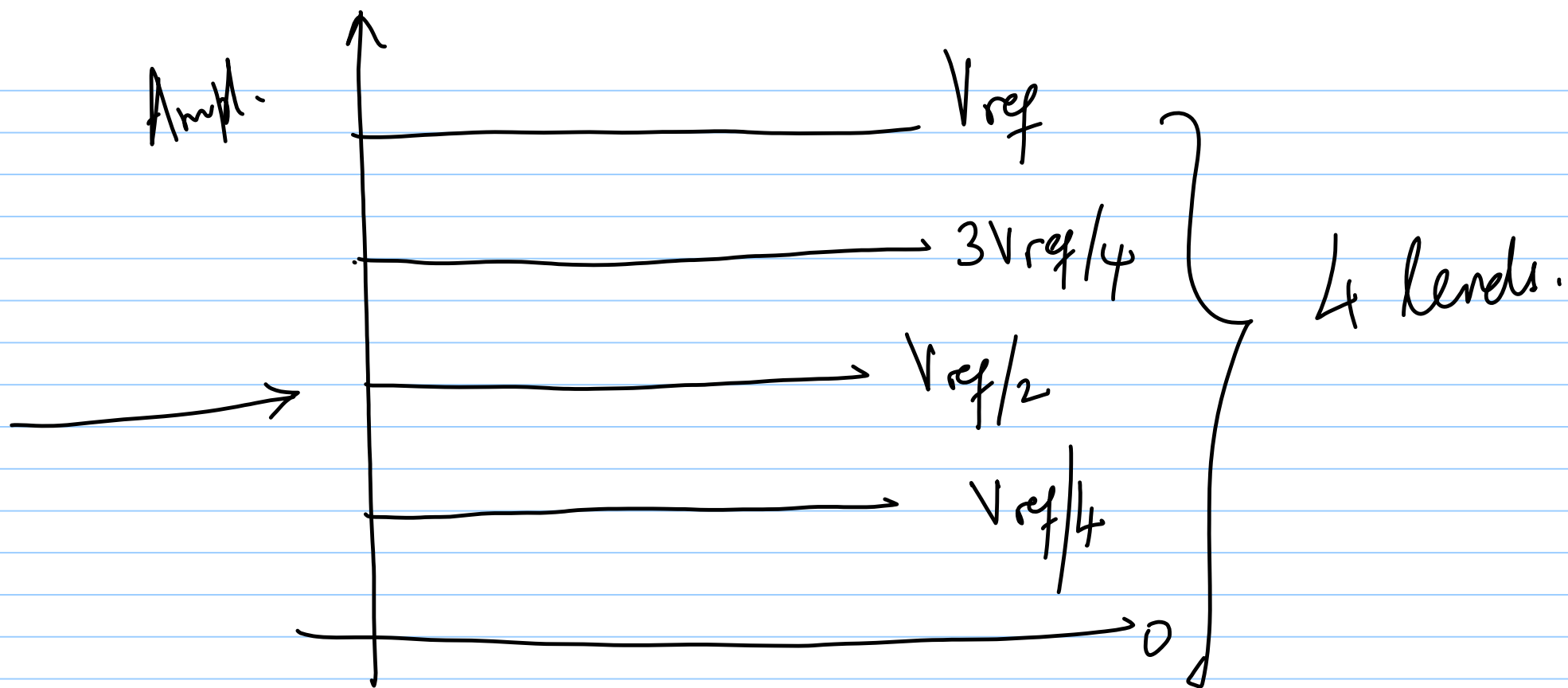
Thermometer
Code





Flash A/D

- + Fastest ADC architecture
- Hardware cost & power are extremely high
- 6 bit accuracy

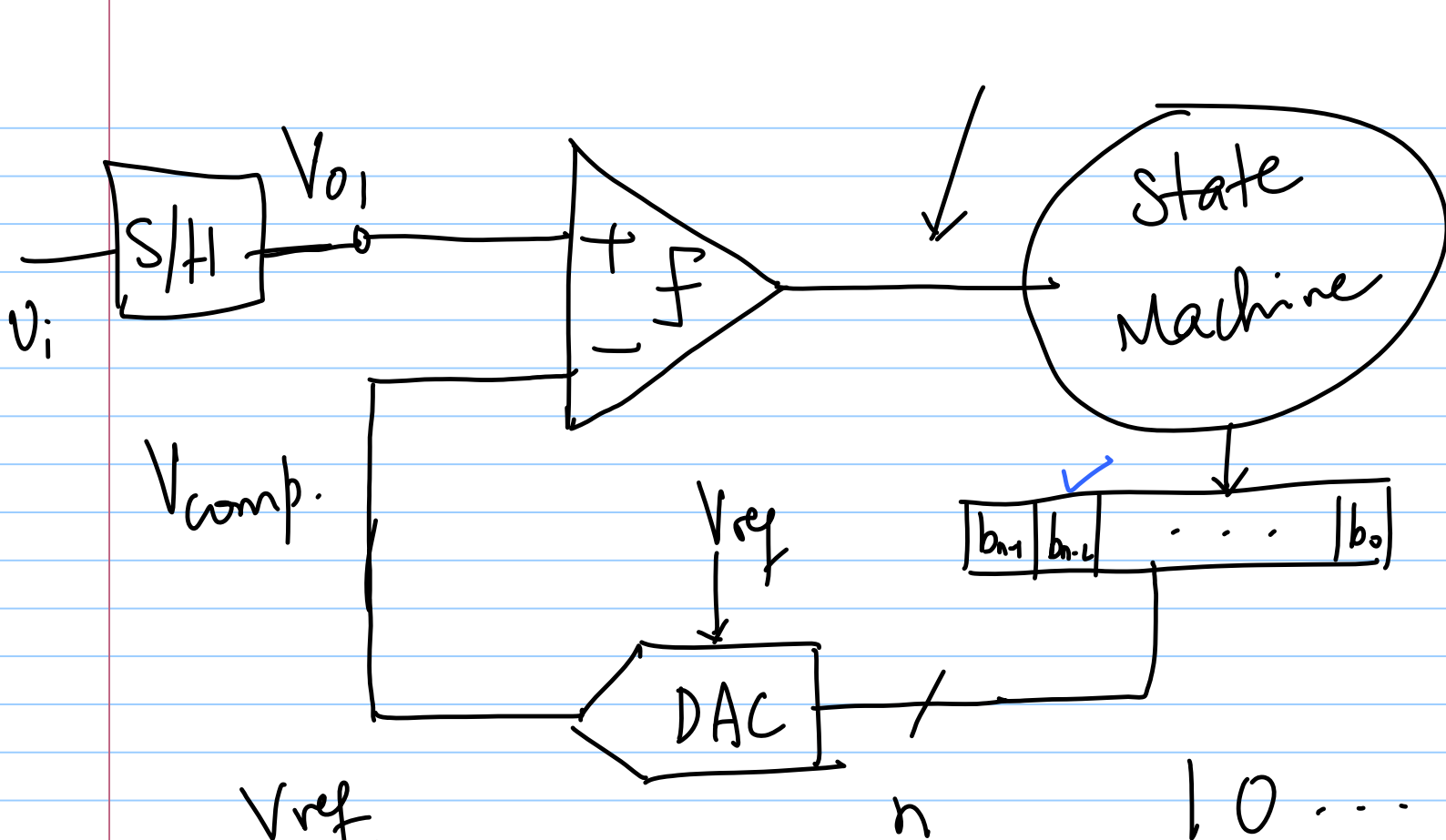


b_1 b_0

↑ ↑

b_{n-1} b_{n-2} $\dots$ b_1 b_0

→



"SAR ADC"
 Successive
 Approximation
 Register ADC
 Register

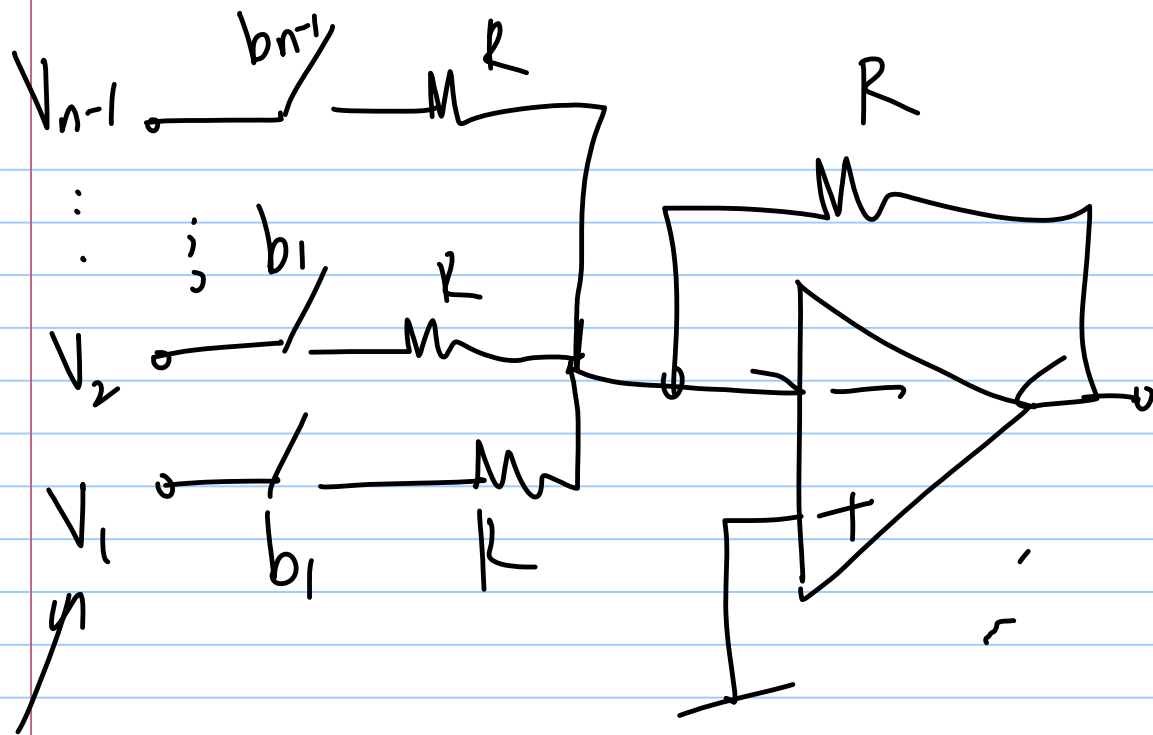
$$\frac{V_{ref}}{2}$$

$$\frac{V_{ref}}{4}$$

$$\frac{3V_{ref}}{4}$$

$10\dots0$
 $d_{n-1}10\dots0$
 $d_{n-1}d_{n-2}10\dots0$

First clk
 cycle



$$b_{n-1} \cdot V_{n-1} + b_{n-2} \cdot V_{n-2} + \dots + b_1 V_1 + b_0 V_0$$

Resistor
string
voltages

