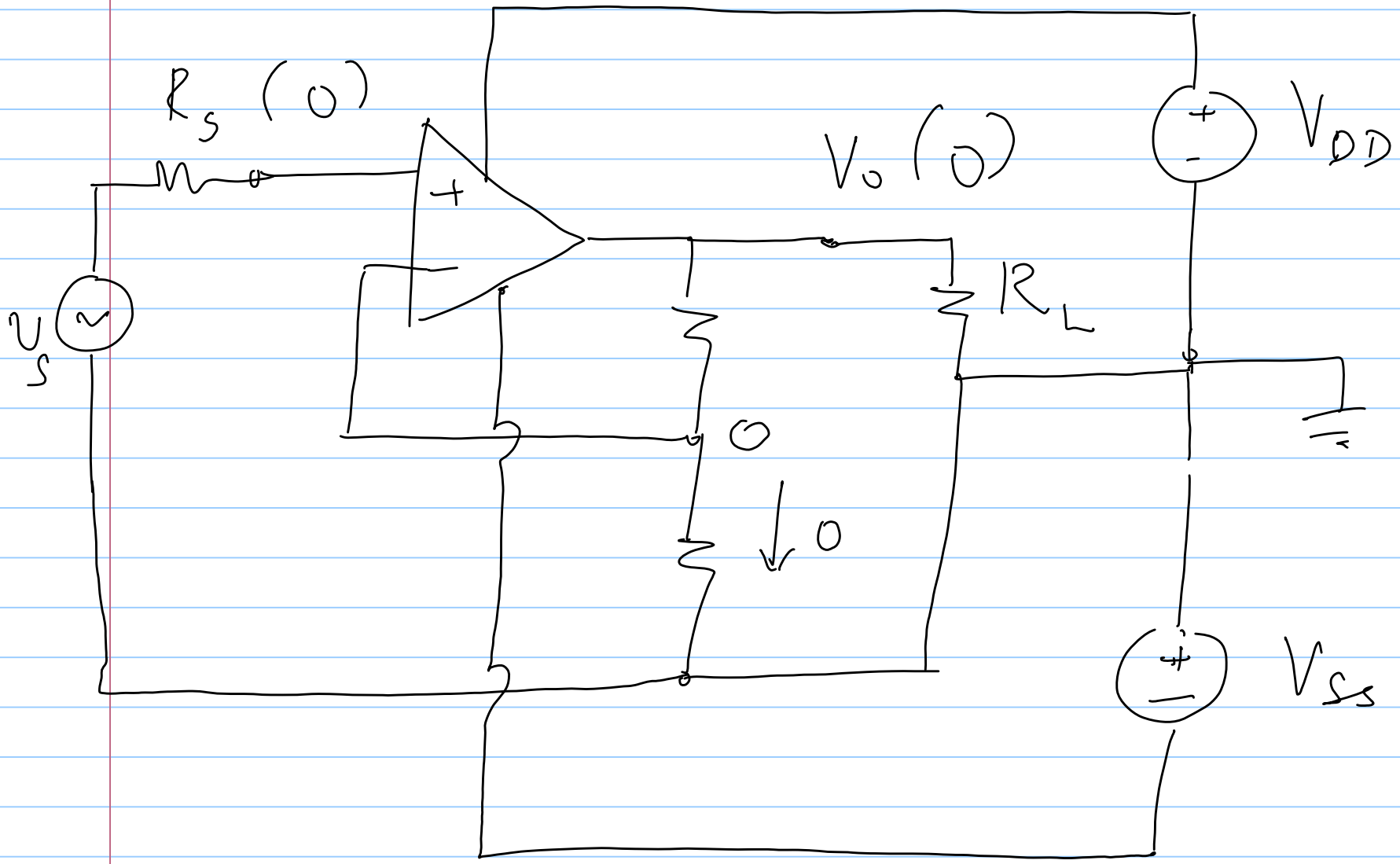
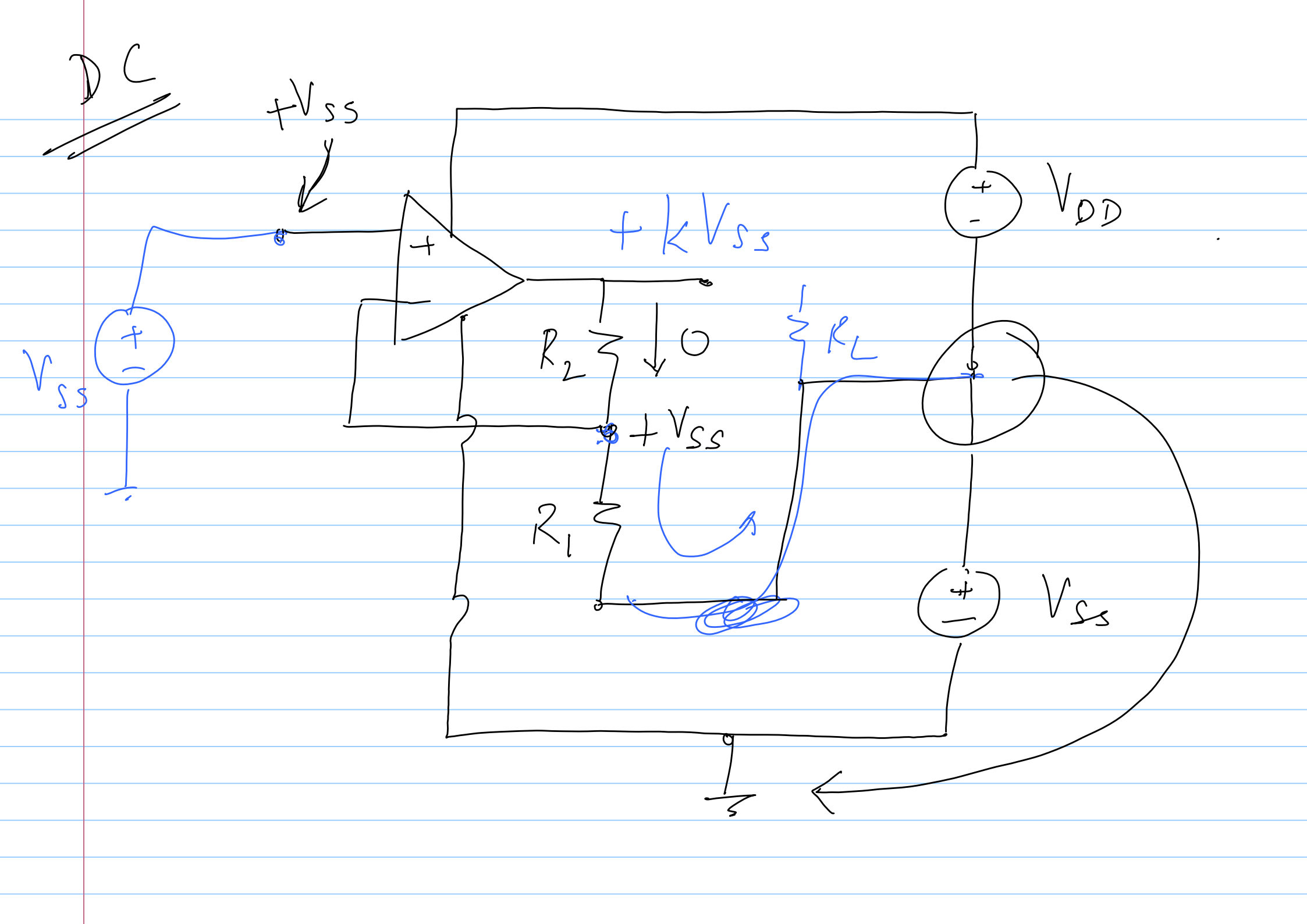
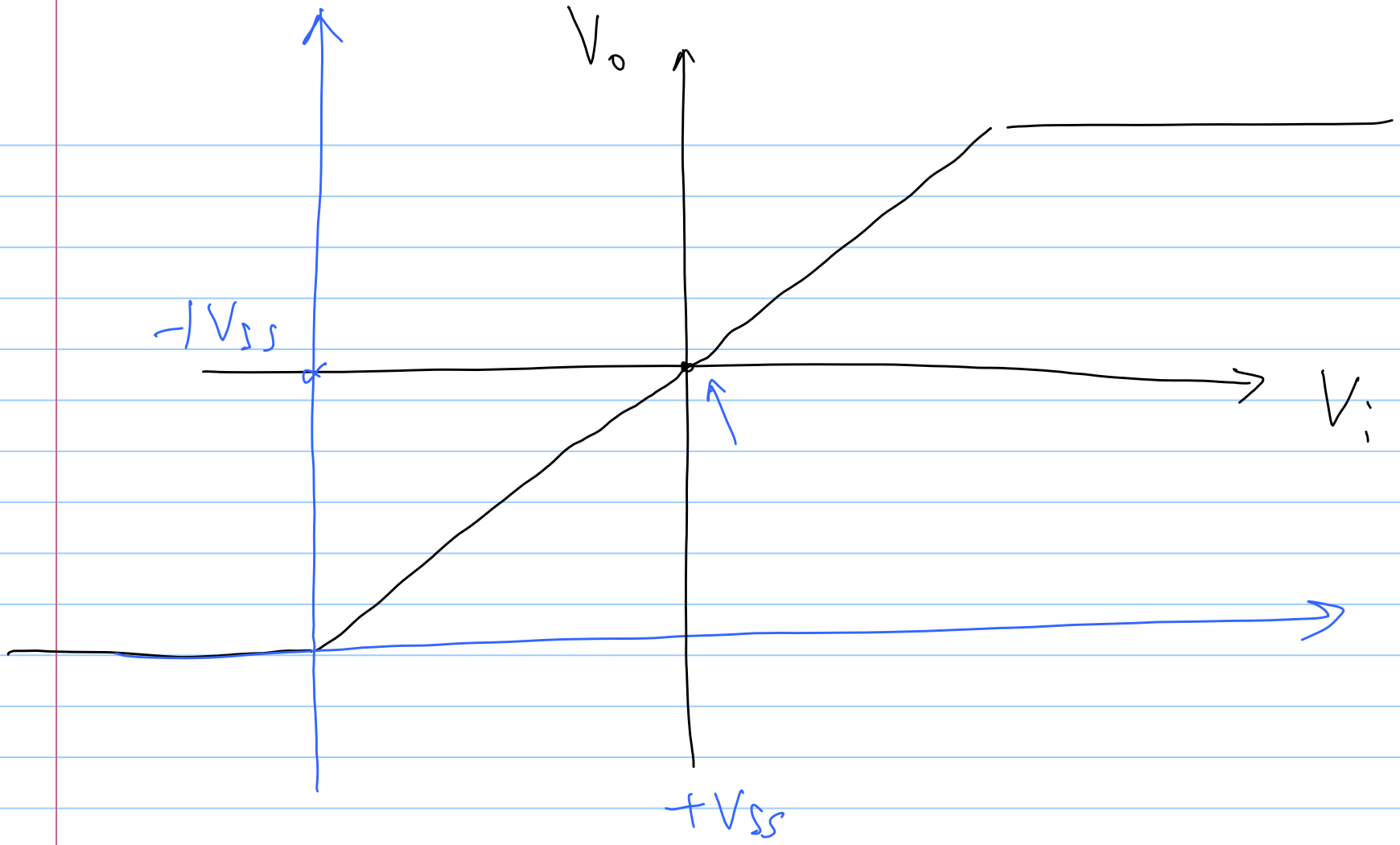
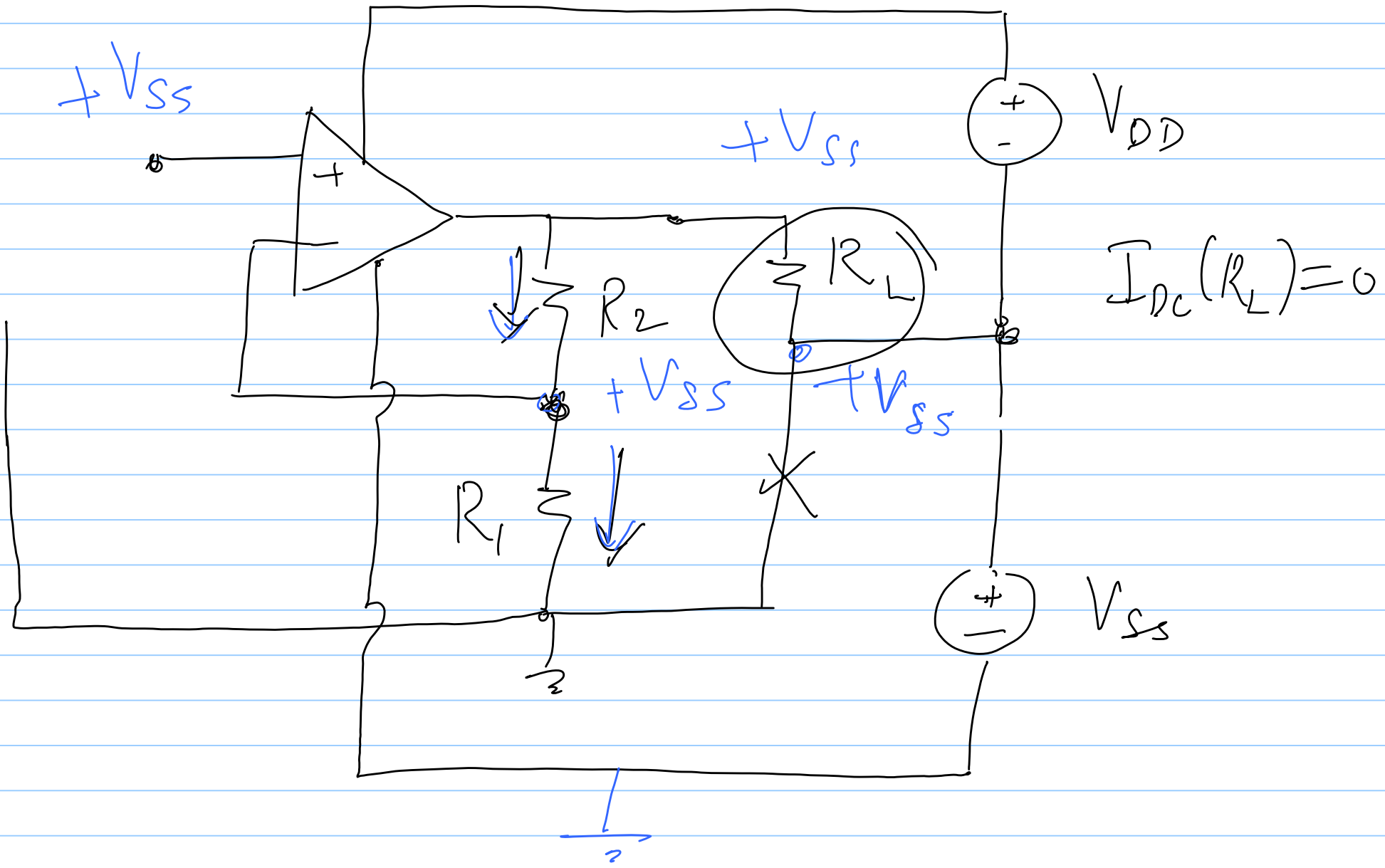
06/02/2019

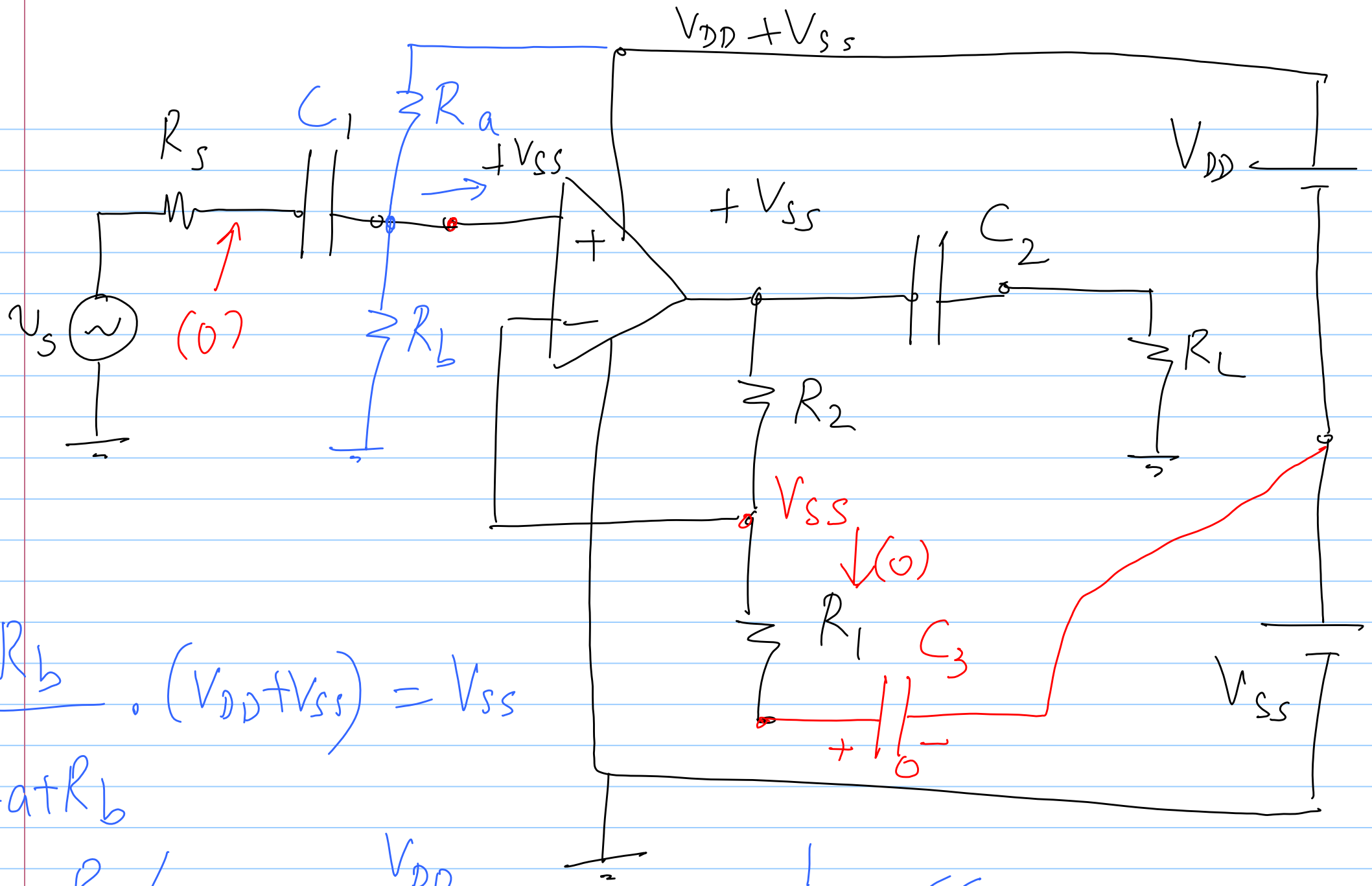
Lecture 12




DC
+Vss
Vss
+kVss
R2
0
+Vss
R1
RL
VDD
Vss


V_o
$-|V_{ss}$
V_i
$+V_{ss}$

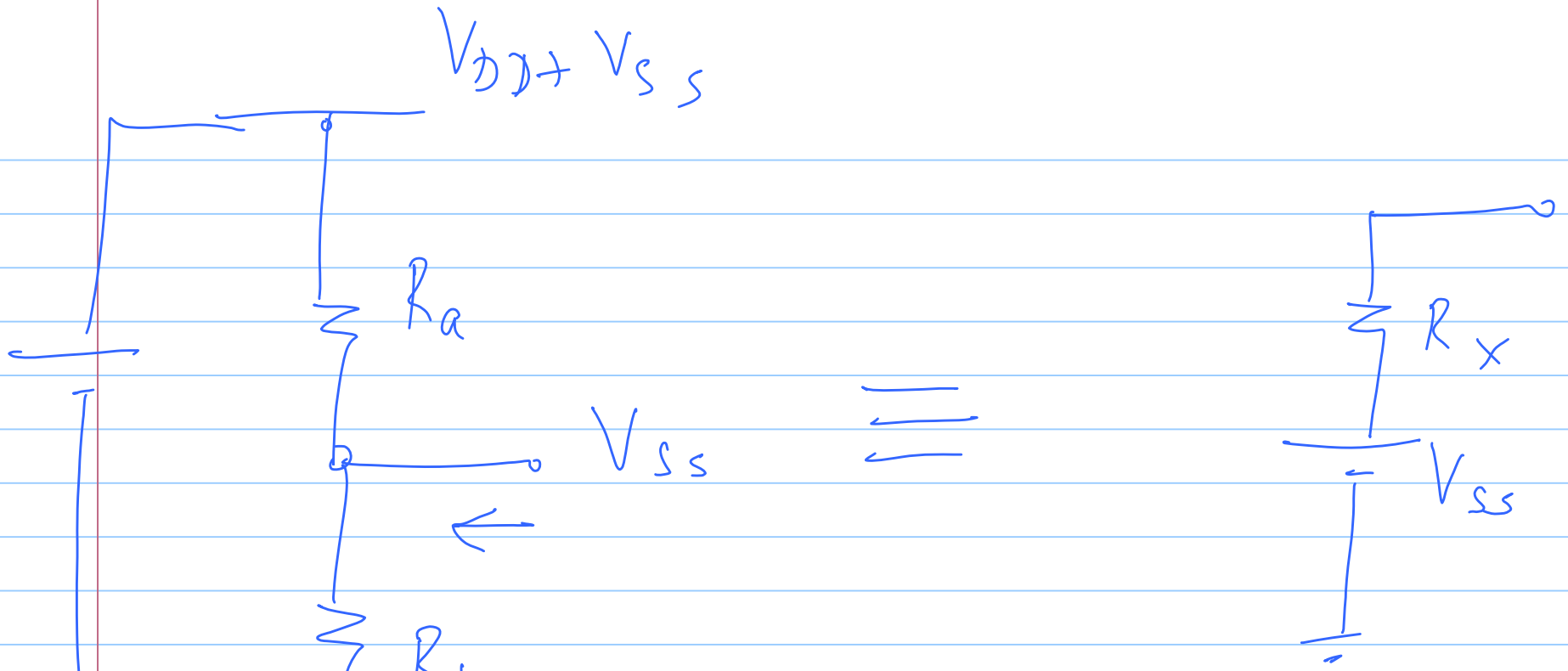

+Vss
+Vss
+
-
VDD
RL
IDC(RL)=0
R2
+Vss
+Vss
R1
+
-
Vss



$$\frac{R_b}{R_a+R_b} \cdot (V_{DD}+V_{SS}) = V_{SS}$$

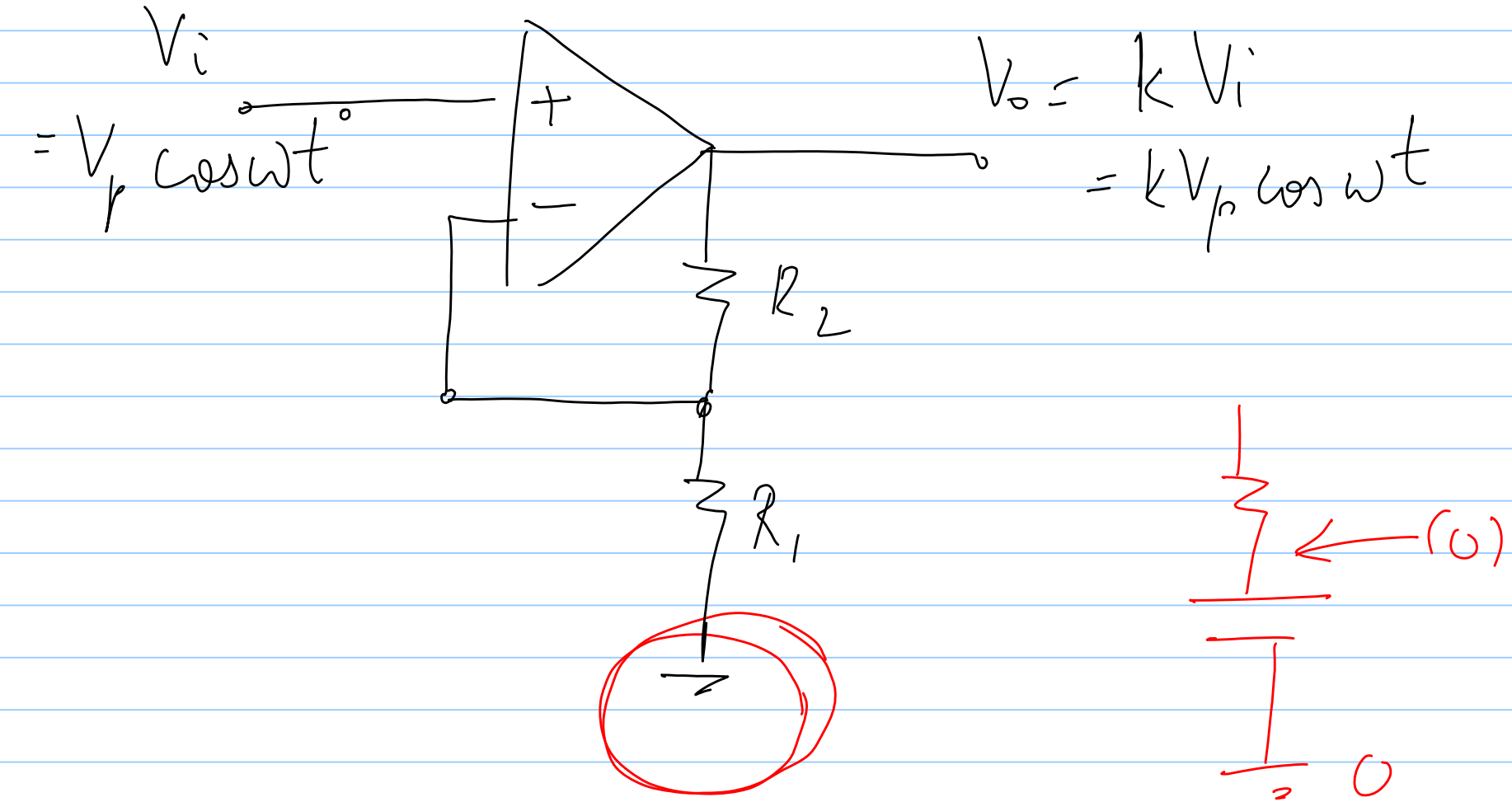
$$R_a/R_b = \frac{V_{DD}}{V_{SS}}$$

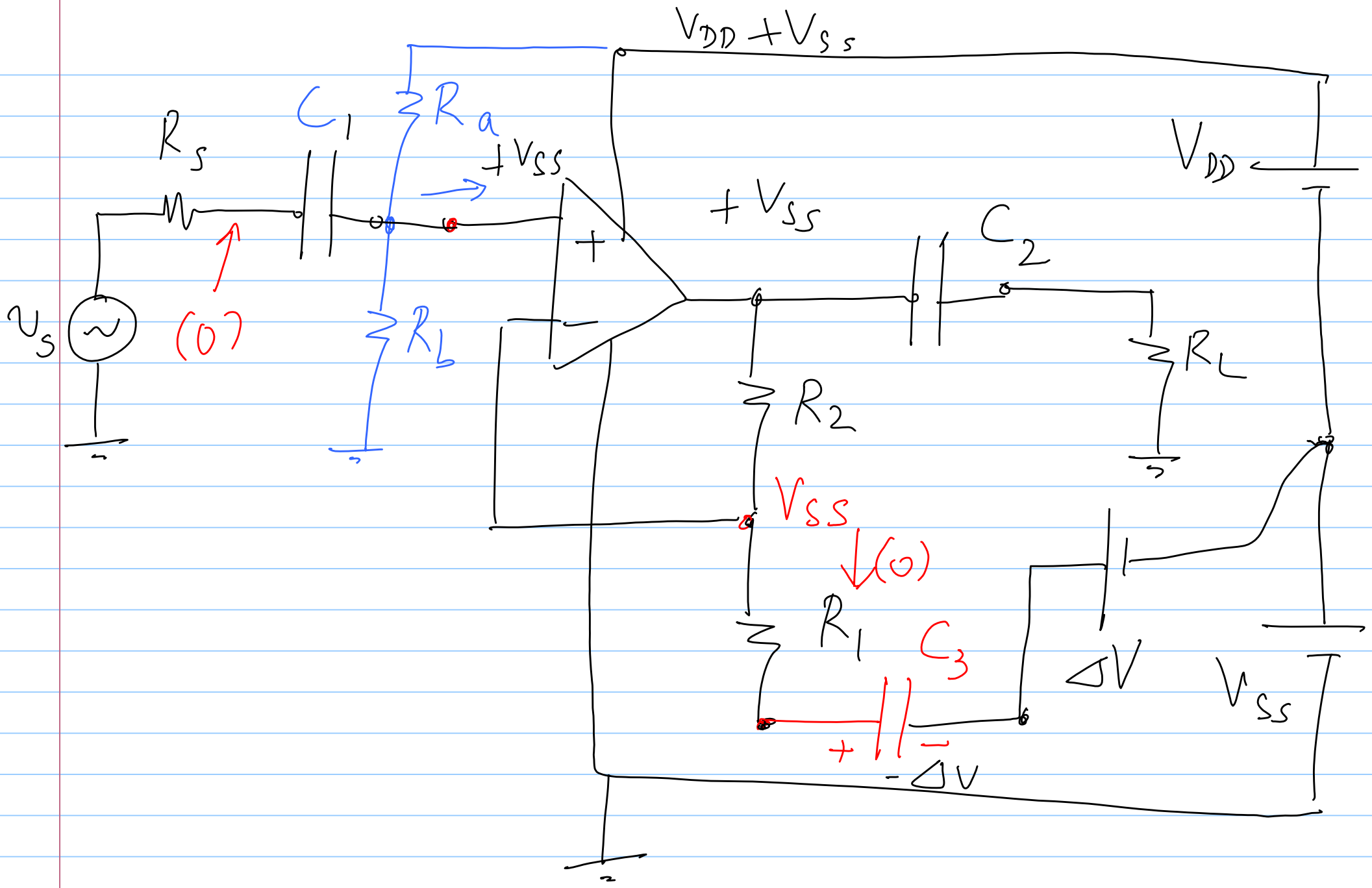
$$\frac{1}{\omega C} \ll$$

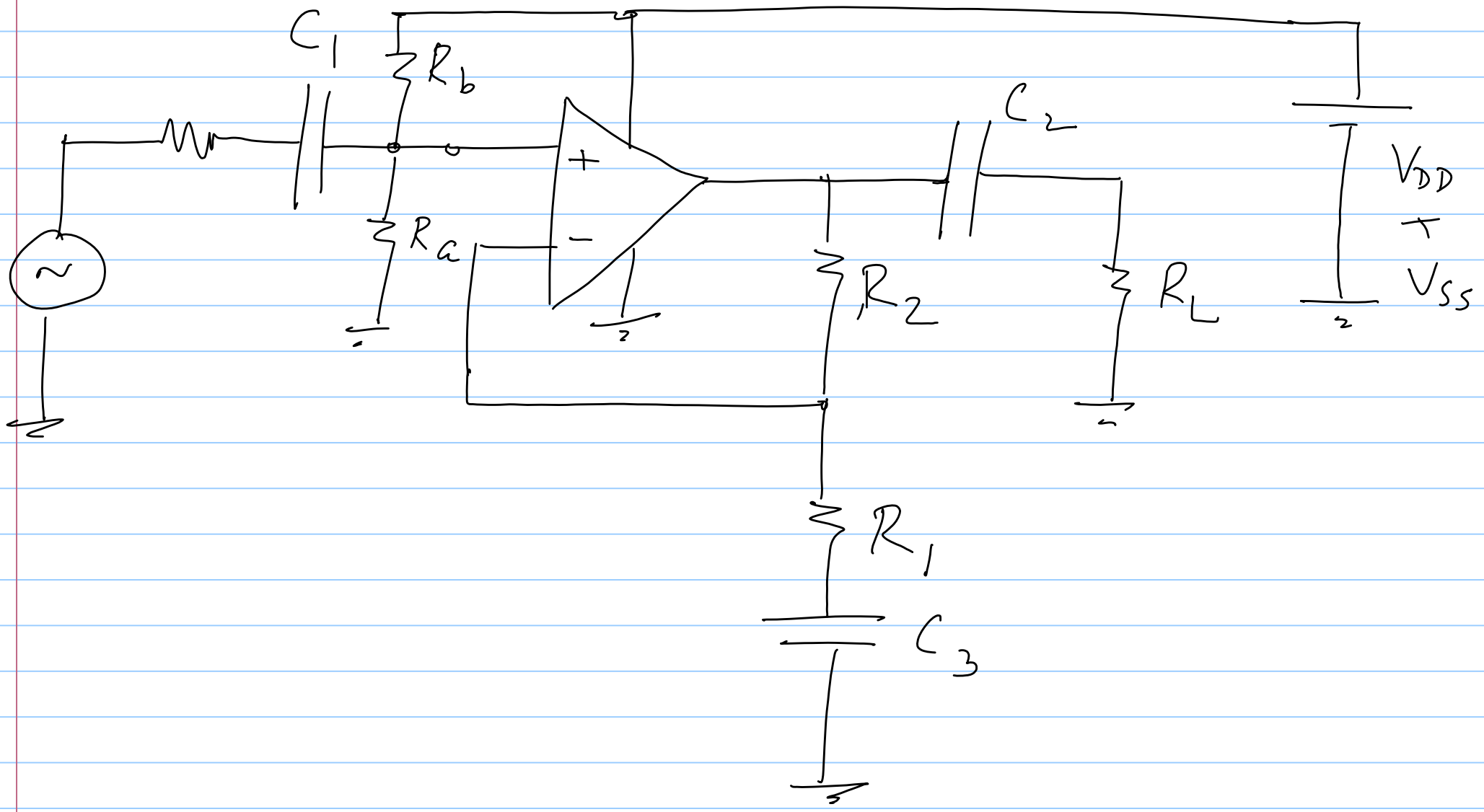


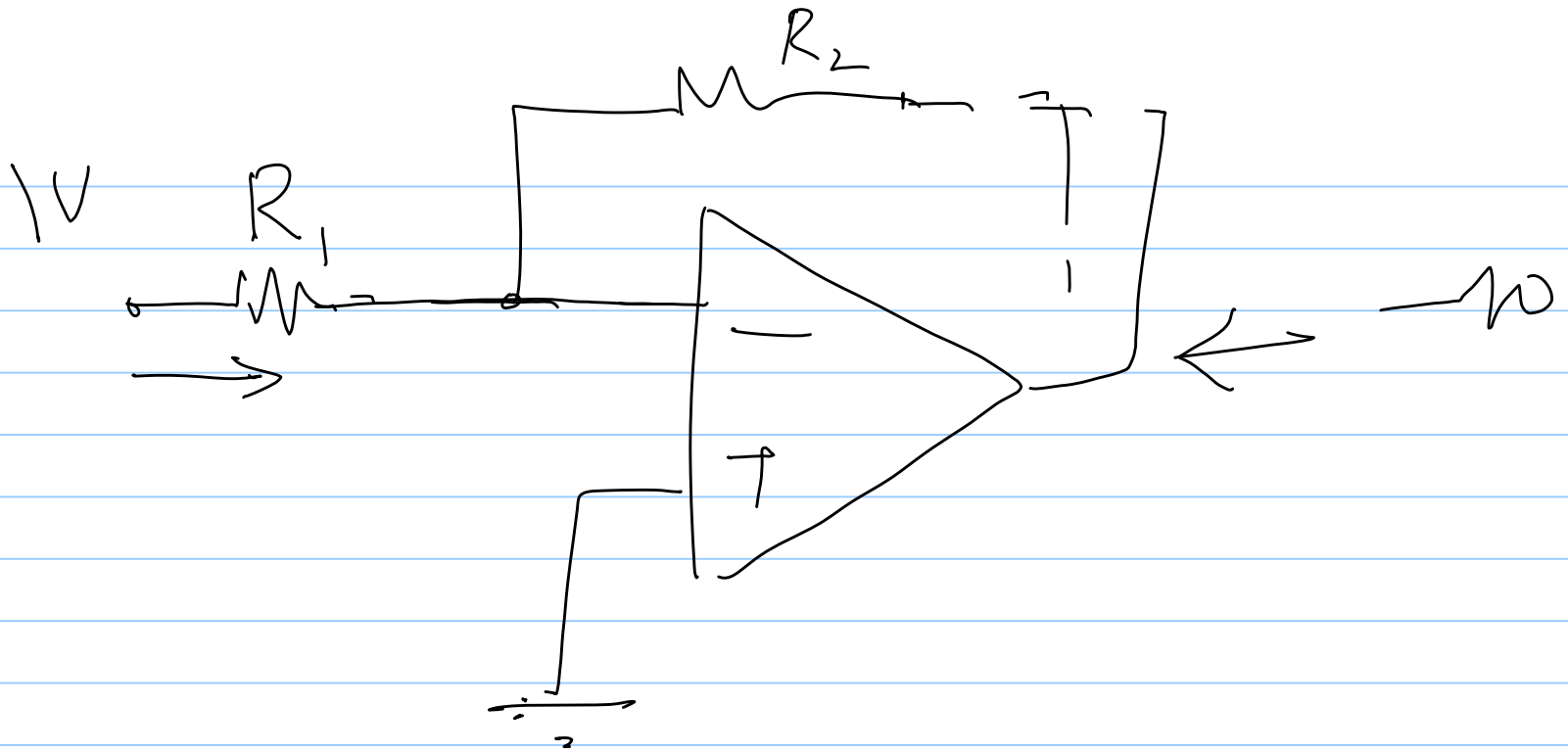
$$R_x >> \frac{1}{\omega C}$$

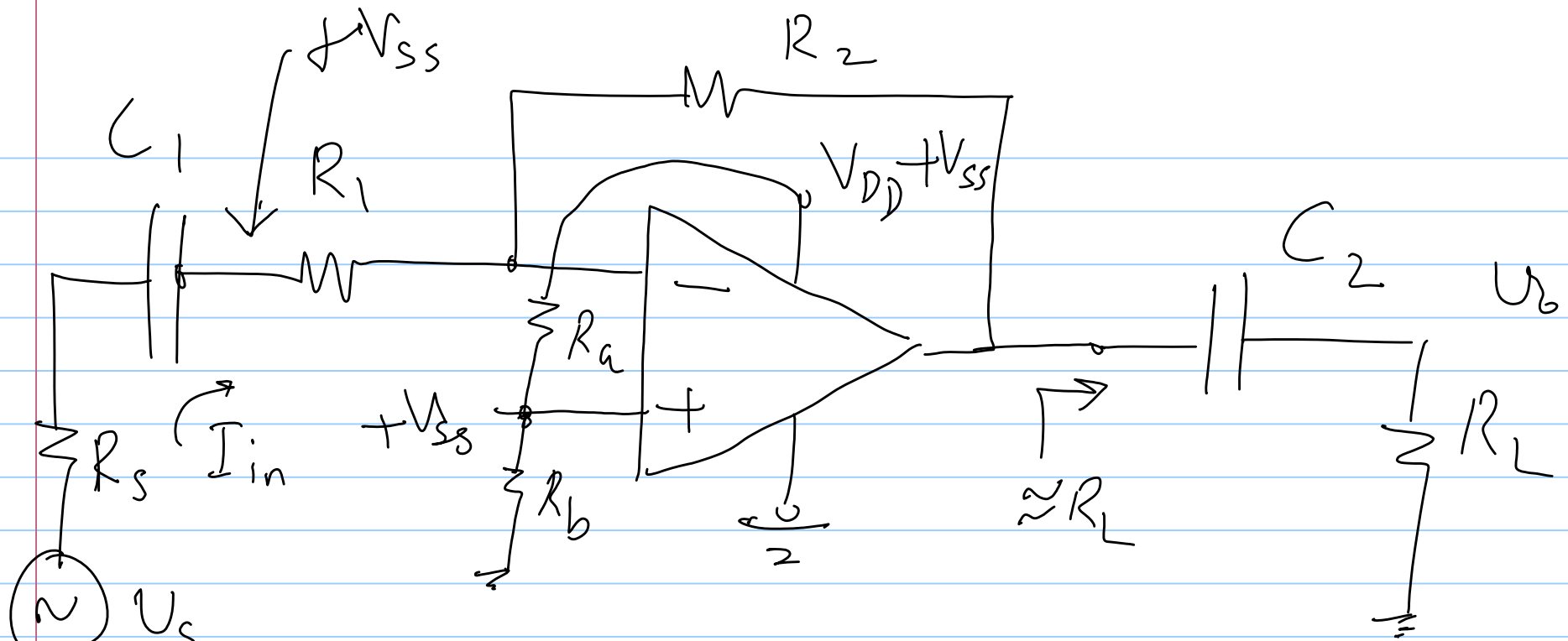
$$R_x = R_a \| R_b$$


V_i
$= V_p \cos \omega t$
+
−
R_2
R_1
$V_o = kV_i$
$= kV_p \cos \omega t$
(0)
0


$V_{DD}+V_{SS}$
R_s
C_1
R_a
$+V_{SS}$
V_{DD}
$+V_{SS}$
C_2
V_s
(0)
R_L
R_2
R_L
V_{SS}
(0)
R_1
C_3
ΔV
V_{SS}
$+$
$-$
$-\Delta V$


C1
Rb
Ra
C2
R2
RL
R1
C3
VDD
+
VSS


R_2
1V
R_1
Vo



$$R_1 \gg R_s \Rightarrow I_{in} = \frac{V_s}{R_1 + R_s} \simeq \frac{V_s}{R_1}$$