Ex. 4.6 p. 210

1. $g = -100 = -\frac{R_f}{R_i}$. Choose $R_i = 10 \, k\Omega$
   \[ R_f = 1 \, M\Omega \]

2. Input bias current compensation:
   Set $R_3 = R_{i1} R_f$ (see lab manual p. 141 ff.)

3. Offset trimming:

4. High $Z_{in}$:

   (See p. 190, H.8.)
C charges from I from IC.
This current is finite.

Charging rate of \( C \): Slew rate

\[
\frac{dv}{dt} = \frac{I_{\text{out}}}{C} = \frac{10^{-2} \text{ A}}{0.01 \mu \text{F}}
\]

Slew rate = 1 V/ms.

See page 44.
Ex 4.8, Q2.

Output of IC1 follows input and sources some I.

\[ I_{\text{OUT}} = C \frac{dU}{dt} \]

\[ = 0.01 \text{ mF} \times 0.1 \text{ V/\mu s} = 10^{-3} \text{ A}. \]

This I produces voltage drop across effective R of Q1.

Voltage drop across R:

\[ U = IR \]

\[ = 10^{-3} \text{ A} \times 50 \text{ ohms} \]

\[ U = 50 \text{ mV} \]
EX 4.8, PAGE 8, 03.

DROOP RATE \( (dV_C/dt) \) is just due to charge leaking off of \( C \).

\[ I_{\text{LEAK}} = C \frac{dV}{dt} \]

\[ \Rightarrow \frac{dV}{dt} = \frac{I_{\text{LEAK}}}{C} = 1 \text{ mA} \times 10 \text{ F} \]

:: DROOP RATE = 0.1 V/s