1 of 2. (a) What is the expression for the voltage gain \( V_o/V_i \) at very low frequencies? \( V_o/V_i = -(R_2 + R_3)/R_1 \) 
(b) What is the expression for the voltage gain \( V_o/V_i \) at very high frequencies? \( V_o/V_i = -R_3/R_1 \) 
(c) Solve for the transfer function \( T(s) = V_o/V_i \). Use the two-terminal impedance theorem to write 
\[
T(s) = -\frac{R_2 + R_3 \, 1 + R_2 || R_3}{R_1} \frac{1}{1 + R_2 C s}
\]
(d) What is the expression for the pole frequency of \( T(s) \) in rad/s? \( (R_2 C)^{-1} \) 
(e) What is the expression for the zero frequency of \( T(s) \) in rad/s? \( [(R_2 || R_3) C]^{-1} \) 
(f) Sketch and label the straight line Bode magnitude plot for |\( T(j\omega) \)|. Low pass shelving Bode plot.

2 of 2. (a) What is the expression for the voltage gain \( V_o/V_i \) at very low frequencies? \( 1 + R_3/R_1 \) 
(b) What is the expression for the voltage gain \( V_o/V_i \) at very high frequencies? \( 1+(R_2 || R_3)/R_1 \) 
(c) Solve for the transfer function \( T(s) = V_o/V_i \). 
\[
\frac{V_o}{V_i} = \left(1 + \frac{R_3}{R_1}\right) \frac{1 + (R_2 + R_1 || R_3) C s}{1 + (R_2 + R_3) C s}
\]
(d) What is the expression for the pole frequency of \( T(s) \) in rad/s? \( (R_2 + R_3)^{-1} \) 
(e) What is the expression for the zero frequency of \( T(s) \) in rad/s? \( [(R_2 + R_1 || R_3) C]^{-1} \) 
(f) Sketch and label the straight line Bode magnitude plot for |\( T(j\omega) \)|. Low-pass shelving Bode plot.