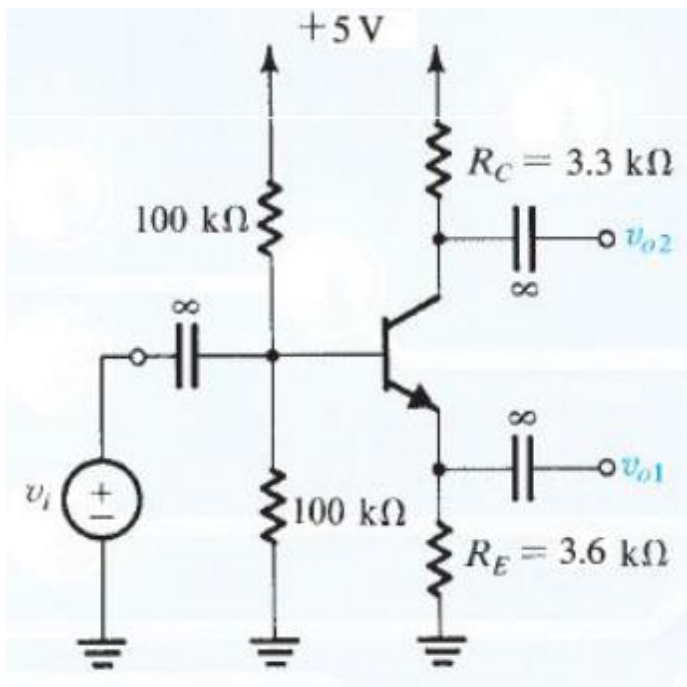# Last Lecture → Problem 6.107

Assuming β is very large and the transistor is operating in active mode, find the collector bias current I_C. Using the small-signal model analyze the circuit to determine v_{01}/v_i and v_{02}/v_i. Assuming $V_A = \infty$, determine the resistance seen by the input source and the output resistances from v_{01} and v_{02}.

$$V_E = \frac{V_{cc}}{2} - V_{BE} = 1.8V$$

$$V_C = V_{cc} - R_C \cdot I_C = 3.35V$$

$$I_C = I_E = \frac{V_E}{R_E} = 0.5mA$$