a) What is the value of V_c at $t = 0^+$? **Write It in the BOX BELOW.** *(5 points)*

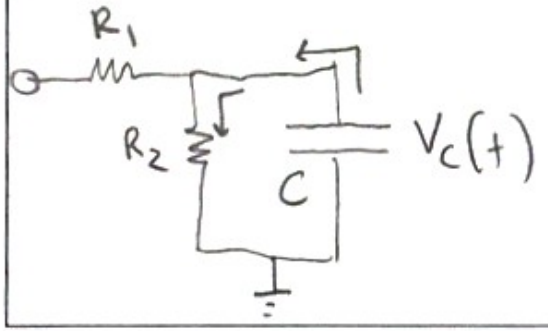
$$V_c(0^-) = \frac{R_2}{R_1 + R_2} V_S = V_c(0^+)$$

Since V_c cannot change instantenously.

b) Using whatever method you like, provide a ***symbolic expression*** for the voltage $V_C(t)$ for $t > 0$ in the **BOX BELOW.** *(15 points)*

Open, no current can flow

Equivalent circuit is



$\tau = R_2 C$

$V_c(t) = V_c(\infty) + [V_c(0^+) - V_c(\infty)] \cdot e^{-t/\tau}$

$V_c(\infty) = 0 \Rightarrow$ $\boxed{V_c(t) = \frac{R_2}{R_1 + R_2} \cdot V_s \cdot e^{-t/R_2 C}}$