Ex:

Calculate the energy stored on the capacitor at \( t = 0^+ \).

\[ \text{Sol'n: Energy } w_c = \frac{1}{2} C v_c^2(t=0^+) \]

Since capacitor voltage cannot change instantly, \( v_c(0^+) = v_c(0^-) \).

At \( t=0^- \), \( C \) acts like open circuit and switch is closed.
The short created by the switch creates a voltage loop on top left with 0V across C and across the 20kΩ resistor.

Thus \( V_C(0^-) = 0V = V_C(0^+) \).

\[ \therefore w_C(0^+) = 0 \text{ J} \]

Note: The units for energy are Joules.